**PRE-ANALYSIS PLAN**

**ARTISTIC PATHWAYS FOR YOUTH EMPLOYMENT**

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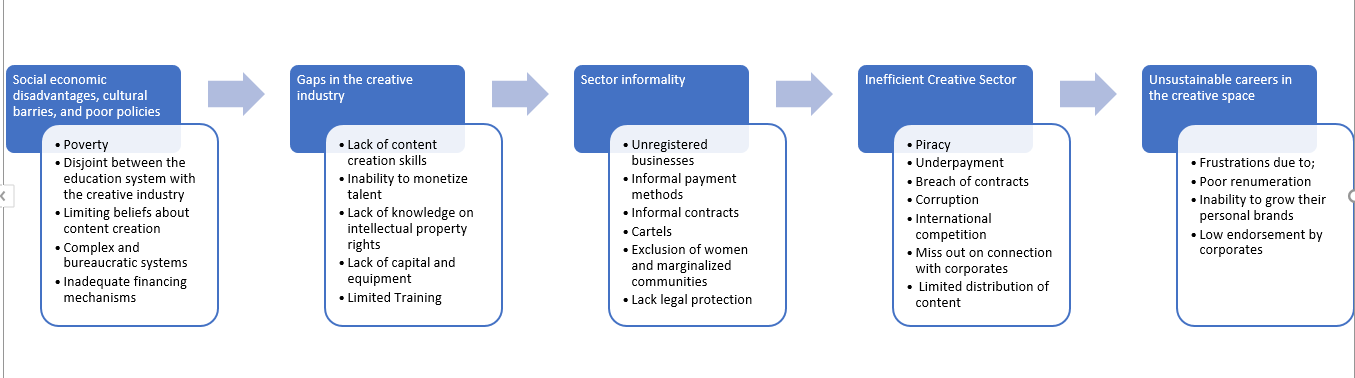
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# **Introduction**

In May and June 2023, we conducted a Market Assessment for the Creatives Sector in Kenya by use of the [Approach to Inclusive Market Systems (AIMS)](https://www.ilo.org/empent/Projects/refugee-livelihoods/vcd/lang--en/index.htm) methodology. Starting with a root cause analysis, AIMS contributes to the design of interventions that support efficiency of markets for vulnerable groups. A root-cause analysis (**see figure 1**), shows traces the causes of unsustainable careers in the creative space to social economic disadvantage of the youth, cultural barriers, and poor policies. Due to poverty, youth cannot access quality training on content creation, neither can they afford the equipment needed to create quality content. The culture is also limiting as it dismisses content creation as a career. The observed disjoint between the education system and the creative industry also contributes to the lack of skills in the creative space. The youth enter the industry with little to no skill on content creation and entrepreneurship. Moreover, they lack knowledge on policies governing the industry, most dire being information on intellectual property rights. As a result, the sector records high number of unregistered businesses, informal contracts, and casual payment methods which ultimately result in abuse through; infringement of intellectual property rights, underpayment, and breach of contracts. These factors erode the competitive advantage of the firms in the Kenyan creative industry. Owing to erosion of competitive advantage, the youth cannot keep up with content creation and are forced to quit despite their underlying potential. Informed by literature review and stakeholder validation, we developed a model, which we named “flipped model” to overcome the systemic barriers identified in our study.

The model combines technical and entrepreneurship concepts to guide youth from idea conceptualization to market entry postulating that it will generate sustainable businesses and decent jobs across various creative arts value chains.

**Figure 1: Root Cause Analysis for Unsustainable Careers in the Creative Sector**

# **Intervention summary**

The intervention seeks to harness the burgeoning potential of Kenya's creative industry, which has experienced substantial growth driven by digital migration, increased internet usage, and regulatory demands for local content. Building upon the United Nations' recognition of the creative economy's significance in sustainable development, the project employs a transformative flipped model to reshape the traditional production-to-market approach in the creative arts sector. This intervention addresses the challenges faced by creatives through various strategies:

* Establishing creative living labs in the coastal, western, and central regions of Kenya, designed to foster content creation while focusing on dismantling systemic barriers and promoting inclusivity.
* Executing thorough market analysis, pre-production, and content testing to ensure that content resonates with market demand, thus equipping youth to effectively lead, manage, and market their content.
* Implementing mentorship programs to enlighten young creatives about the intricacies and dynamics of the creative arts sector.
* Facilitating linkages between youths and both public and private sector market spaces.
* Linking young creatives to sources of finance through Wabunii SACCO, fostering a culture of saving among creatives.
* Providing a comprehensive training program encompassing life and soft skills, entrepreneurship, creativity and innovation, financial literacy, legal and ethical considerations, digital marketing and personal branding, business registration procedures, and content development.

The intervention is slated to span a four-month duration, with the ultimate goal of creating new employment opportunities, enhancing content quality, and establishing connections between youth and potential consumers of creative content, thus ensuring sustainable income and employment opportunities.

# **Sample description**

## 3.1 Population and selection criteria

The study will encompass a population of youth in their early career stage in art, both performing and visual, as well as those involved in supporting roles within the creative value chain. The research will focus on three counties in Kenya: Kisumu, Mombasa, and Kiambu. Selection criteria will be based on the following parameters: age eligibility 18-35 years and proven involvement in some form of art for at least 6 months. Those participating in supporting roles within the creative value chain such as videographers, makeup artists and photographers amongst others will be considered.

## 3.2 Recruitment strategy

Since there is no existing sampling frame for upcoming artists in the study regions, recruitment will be initiated by making an open public call. The call will be circulated through county governments, social media platforms and other public places. The application period will span one month, after which it will be closed.

## 3.3 Randomization strategy

Following the baseline interviews, eligible participants will undergo a randomization process into either the immediate treatment group (ITG) or the wait-list control (WLC) group. To ensure transparency and randomness, this allocation will be conducted using a random number generator within Microsoft Excel (Chhatre et al., 2023; Yang et al., 2023). Subsequently, a balance check of baseline characteristics between the treatment and control groups will be performed. This will involve independent t-tests for continuous variables and chi-square tests for categorical variables. The randomization will be conducted at the county level, with a specific focus on sub-counties that are geographically distant from one another. This approach is adopted to minimize potential interactions and inadvertent information sharing between the two study groups, thereby reducing the risk of unintended influences on the results stemming from partial intervention. Furthermore, to hold ethical consideration, participants in the wait-list control group will have the opportunity to benefit from the program after a year of follow-up. This information will be communicated to them immediately after randomization to ensure that they are aware of the future potential benefits and to prevent any loss of contact with this group, which could lead to imbalances in the sample.

## 3.3 Expected sample size

Given the dynamic nature of the creative industry, which has seen significant growth due to recent technological advancements, there is an anticipation of potential oversubscription to the program. However, considering resource limitations, time constraints, and the need for a well-equipped workforce to ensure robust data collection, the study has chosen to employ Cochran's sample calculation method (Asenahabi & Ikoha, 2023; Thamizhvel et al., 2023). This approach is aimed at determining an appropriate sample size that can facilitate the generalization of findings and enable the detection of intervention effects. As a result of this sample calculation, a total sample size of 600 participants has been determined (please refer to **Table 1**). These participants will be evenly distributed across the three designated sites, resulting in 200 randomly selected individuals at each study site, with 100 assigned to the treatment group and 100 to the control group.

**The adopted approach considered the following issues:**

* Degree of precision required;
* Statistical power (lack of power in a study is likely to lead a researcher to conclude that no difference exists between the two groups or between two survey rounds on the same group, when in fact, actual changes have occurred but could not be detected because of lack of adequate sample size);
* Estimated non-response and attrition rates from the program;

Based on a sample calculation process, a total of 600 upcoming artists will be selected to participate in the study (200 from each region). A power of 80% will be used as is consistent with other previous studies.

**Table 1: Power and Sample size calculations**

|  |  |
| --- | --- |
| Power Analysis |  |
| Type 1 error rate (Alpha) | 0.001 |
| Power (1-beta) | 0.8 (80%) |
| Ratio of sample size, treat/control | 0.5 |
| Allowable difference | 0.08 |
| SD | 0.1 |
| Margin | 0.05 |
| Drop rate (Attrition rate) (%) | 10 |
| Results | |
| Sample Size – Treatment | 300 |
| Sample Size – Control | 300 |
| Total sample size | 600 |

# **Methods and data sources**

## 4.1 Baseline and End-line data collection

The study will primarily rely on data from primary sources originating from program participants (both the treatment and waitlist control group). The primary data collection will be conducted in two-pronged phases. At the beginning of the program, baseline data collection will be conducted to take stock of participants initial condition and demographic characteristics. Subsequently, after the initial one-year period of the intervention, an endline survey (after one year of intervention) will be conducted to assess the program's influence on participants' outcomes. The questionnaire used for the baseline will be standardized and applied for endline survey. This approach will facilitate consistency and seamless comparison of the indicators before and after the program intervention.

In order to enhance efficiency and effectiveness in survey data quality and reduce the lag time associated with data entry, computer assisted personal interview (CAPI) will be used for data collection. This approach will be implemented using mobile phones utilizing Kobo toolbox Application. The questionnaires will be coded into android smart phones/tablets. This will do away with the human manipulation, cost and problems associated with data entry. The data collection exercise will be carried out with the assistance of experienced and well-trained research assistants. For comparability purposes, the participants will be coded to ensure that baseline data is compared with end-line data during impact evaluation. Data collected from the participants will be handled with the highest degree of confidentiality. It will be stored in a highly secure database, safeguarded by robust password protection. Access to this data will be restricted to only those individuals involved in data processing to ensure its integrity and security.

The instrument will undergo a rigorous pre-testing process to ensure their effectiveness and appropriateness for the study. This pre-test serves the purpose of validating the items that measure the intended constructs. It will involves testing the questions and response options to ensure they accurately capture the concepts under investigation. Feedback from the pre-test participants will be used to fine-tune and refine the questionnaire, making it more suitable for the target respondents. Additionally, a pre-test utilizing mobile assistance will be carried out to assess the functionality of the programming and to finalize the questionnaire. This step is crucial in ensuring that the survey tool operates smoothly and effectively. It allows for the identification and resolution of any technical or logistical issues that may arise during data collection. By conducting these pre-tests, the study aims to enhance the quality and reliability of the quantitative instruments, ultimately improving the accuracy of the data collected for the research.

The study questionnaire has six modules, each dedicated to addressing different aspects of the study: Module A: Demographics characteristics, Module B: Income generating activities, Module C: Exposure to Training and Mentorship Opportunities, Module D: Creative Assets Ownership, Module E: Membership in Associations and Access to Bank services, Module F: Job Decency Measures (13 items), Module G: PERMA Scale – Wellbeing Measures (5 items).

## 4.2 Study hypotheses

The study will be predicated on the following five hypotheses;

**Hypothesis 1**: Empowering upcoming artists by use of the flipped model enables them to overcome systemic barriers in the creative sector.

**Hypothesis 2**: Applying the flipped model in the creatives sector provides decent jobs for upcoming artists

**Hypothesis 3**: Applying the flipped model in the creatives sector contributes to longer job tenure for upcoming artists

**Hypothesis 4**: Applying the flipped model in the creatives sector contributes to a competitive advantage for upcoming artists

**Hypothesis 5**: Applying the flipped model in the creatives sector contributes to improved personal wellbeing for upcoming artists

## 4.3 Study outcomes of interest

The study's primary outcome will focus on assessing job decency by examining income levels and working hours. Income generated from creative activities will be compared before and after the intervention to determine the improvement. The second outcome of the study will revolve around well-being, which will be evaluated using four internationally recognized indicators for PERMA Scale – Well-being Measures championed by Cabrera and Donaldson (2023). The third outcome will focus on overcoming systemic barriers. This will be measured using indicators assessing participants' knowledge of Intellectual Property, access to markets, access to information, experiences of discrimination, and access to financial services before and after the intervention, to determine whether positive changes have occurred. The fourth outcome will gauge improved competitive advantage, assessed by the number of creative assets owned by participants before and after the program. Finally, longer job tenure will be determined by the number of creatives consistently earning decent income from their creative activities for a period of six months after the training, as outlined in the **Table 2** below.

**Table 2: Study Outcomes description**

|  |  |  |  |
| --- | --- | --- | --- |
| **Outcome** | **Description** | **Hypothesis** | **Level** |
| Systemic barriers | Change over time in the relative number of creatives having knowledge on intellectual property, access market, access information and financial services. | Related to Hypothesis 1 | Individual |
| Decent jobs | Change over time in in the relative number of creatives having improved income from their creative activities. | Related to Hypothesis 2 | Individual |
| Longer job tenure | Changes over time in the number of creatives consistently earning a decent income from their creative activities for six consecutive months. | Related to Hypothesis 3 | Individual |
| Improved Competitive advantage | Changes over time in the number of creatives with increased number of creative assets for their production. | Related to Hypothesis 4 | Individual |
| Improved personal wellbeing | Changes over time in the number of creatives with improved wellbeing score. | Related to Hypothesis 5 | Individual |

## 4.4 Variables Construction

The study will evaluate the dimensions of well-being and job decency using 5 and 13 items, respectively. These items will be assessed using a Likert scale, where "Strongly Agree" is coded as 5, and "Strongly Disagree" is coded as 1 for positive statements. If the statement is negative, the scale will be reverse-coded during the analysis process. To create a composite index for these variables, the scores for each item will be summed, allowing for a comparison before and after the intervention. Additionally, an asset index will be utilized as a proxy for measuring competitive advantage. This index will be created by summing the number of creative assets owned by an individual, providing a measure of their competitive advantage. The scores will then be compared before and after to assess whether there is an improvement that could be attributed to intervention or not.

# **4.5 Empirical Analysis: Treatment effect equation to be estimated**

The analysis of the quantitative data for both baseline and end-line surveys will be performed utilizing STATA 17.0 software. Significance will be set at .05 for all statistical tests

# **4.5.1 Statistical Analysis for Impact Evaluation**

Two major challenges are anticipated when conducting quantitative analysis: the absence of random selection of treatment and control, and the presence of spillovers. Spillovers is a case where individuals receiving the intervention program share (consciously or unconsciously) the effects/knowledge with individuals who are not in the treatment group. For example, upcoming artists in flipped model intervention might share the skills learned under the program with their friends/colleagues in the control group. Randomization is used to control for self-selection bias (Vetrovsky et al., 2023)[[1]](#footnote-1).. Randomization is key in ensuring that the participants in the intervention and control have the same characteristics at the baseline level (Rosyid et al., 2023). Therefore, randomization ensures the balance between treatment and control group eliminating any unobservable differences among the two groups. The lack of tight randomization requires the utilization of quasi-experimental statistical techniques, such as the Difference in Differences (DiD) or the score-matching method. This may help sort out some difficulties related to the fact that there is not a proper counterfactual.

The impact assessment techniques quantify the average treatment effects (ATE) of a program, assuming heterogeneous returns in the outcomes of each unit receiving the intervention. Against this background, this study intends to use the method of difference in difference (DiD) to mitigate these two issues discussed above concerning project evaluation.

## 4.5.2 Difference in Differences Regression Model estimator

This is a tool used to estimate treatment effects comparing the pre-treatment and post-treatment differences in the outcome of a treatment and a control group (Goodman-Bacon, 2021; Wooldridge, 2021). The impact estimation will be conducted using key indicator variables through the Difference-in-Differences method in STATA V16.0. The procedure will involve the following steps:

**Data Integration**: To begin, the baseline dataset will be appended to the endline dataset, incorporating all variables of interest from both time points.

**Time Variable Creation**: A time variable labeled 'time' will be generated. Cases or rows from the baseline dataset will be assigned a value of 0, while cases from the endline dataset will be assigned a value of 1. This variable distinguishes the two time periods.

**Treatment Variable Creation**: A treatment variable, denoted as 'treatment,' will be constructed. Cases or rows from the control group will be coded as 0, and cases from the treatment group will be coded as 1. This variable differentiates between the treated and control groups.

**Interaction (‘did’) Variable Creation**: A new variable named 'did' will be created. This variable is formed by taking the interaction of the 'time' and 'treatment' variables, which results in a value of 0 for cases not in the treatment group at the baseline and a value of 1 for cases in the treatment group at the endline. 'did' captures the essence of the DiD approach by identifying the change in the treatment group over time relative to the control group.

In this method, the main interest is to measure the average difference over time of an outcome between the units receiving the flipped model program (Intervention(I)) and the units not receiving this program (Control(C)). In particular, it is estimated for each outcome variable using regression framework as proposed by Abadie (2005) and, Sant’anna and Xu (2023) as conceptualized below:

is the observed response for the *ith* observation. It is the value being measured in each group before and after treatment.

is the intercept of regression.

 is a dummy variable that takes the value 0 or 1 depending on whether the *ith*measurement refers to the pre or post treatment period respectively.

is a dummy variable that takes the value 0 or 1 depending on whether the *ith* measurement refers to an individual in the control group or the treatment group respectively.

*()* is an interaction term. It stores the multiplication of the two dummy variable values for the *ith* observation. represent the impact of the intervention.

 is the error term associated with the *ith* observation and it captures the effect of all factors that the model was not able to adequately represent.

The model will be fitted controlling for other covariates such as; Gender, age, county of origin, education level and years of experience in the creative arts space.

## 4.5.3 Subgroup or heterogeneity analysis

We intend to perform a Subgroup or heterogeneity analysis to investigate potential variations in the treatment effect across distinct subgroups within the study population. This analysis will allow us to discern whether specific subpopulations exhibit divergent responses to the treatment, offering valuable insights for tailoring interventions or crafting personalized treatment approaches. The subgroups under examination will encompass gender, educational attainment, geographic origin (county), years of experience within the creative arts sector, and age.

## 4.5.4 Procedures to address survey attrition

The expected attrition rate for this study is anticipated to be 10% or less. To address potential attrition, we have implemented several proactive measures. At the baseline assessment, we will collect participant characteristics and contact information. This information will serve as a valuable resource for follow-up and tracking, enabling us to provide feedback, send updates, and deliver timely reminders about daily activities during and after the training. These proactive communication and engagement efforts are designed to enhance sample retention and minimize attrition among treatment group, ultimately ensuring a more balanced and complete dataset for impact evaluation analysis. To mitigate attrition within the control group, we have planned to implement a strategy centered on transparent and consistent communication. This initiative will be facilitated by the program administrator, ensuring that participants in the control arm receive regular updates about the program’s progress. Additionally, participants will be assured of the benefits they stand to gain from the program after a one-year period. This ongoing communication and feedback loop is instrumental in fostering trust, maintaining the commitment and retaining the control group.

## 4.5.5 Handling of missing data

In cases where missing information is detected, we will conduct back-checks by reaching out to the respondent for clarification. However, we have implemented rigorous monitoring and proactive measures to minimize missing data. These strategies encompass the use of Kobo for questionnaire design, designating crucial questions as compulsory, and engaging well-trained research assistants who understand the significance of missing data in impact evaluation. Through these measures, our objective is to uphold data completeness and accuracy, ultimately enhancing the reliability and validity of the study's findings.

## 4.5.6 Handling of outliers

Extreme values will be handled with the utmost caution due to their potential to impact the intervention's outcomes. To address this issue, we will employ median imputation for continuous variables as a last resort after exhausting all available channels, including back-checking with respondents to clarify any outliers.

## Contamination

Contamination refers to a situation where participants in the control group, who are not supposed to receive the treatment or intervention being tested, inadvertently receive or are influenced by the treatment meant for the intervention group (Kaur & Li, 2023). Contamination can undermine the integrity of an RCT by blurring the distinction between the treatment group and the control group, making it challenging to attribute observed outcomes solely to the intervention. To mitigate the contamination effect, the endline questionnaire will incorporate items designed to measure participants' engagement in various activities related to the intervention. These items will be open-ended and intended to capture a broad spectrum of activities, encompassing not only those directly associated with this project but also any other activities in which participants may have been involved. The purpose of these items is to enable the study to account for and control any potential contamination effects. By gathering data on all the activities participants were engaged in, the study can distinguish between the impact of the intervention and any external influences, ensuring a more accurate assessment of the intervention's effectiveness.

## Ethical consideration

To align our processes with conventional research ethics, our research team has diligently secured ethical approval documentation from authorized bodies, such as the USIU-Africa Ethics & Scientific Review Board. This involved submitting the study protocol, consent forms, and data collection tools for review. Additionally, we have obtained a research permit from the National Commission for Science, Technology, and Innovation (NACOSTI). The research team is committed to upholding research ethics when working with human subjects, ensuring that:

* Participation in all study activities will be voluntary.
* Informed consent will be obtained from participants before their involvement in the program.
* We will make every effort to provide a comfortable and secure environment for interactions with participants, and our team will be trained to safeguard participant confidentiality.
* Any social harms or other reportable events that occur and are brought to the research team's attention will be promptly reported to the Team Leader and addressed with appropriate measures.

## 4.5.9 Limitations of the study

The study holds significant importance within the research landscape, being the novel endeavor of its kind in Kenya's creative sector. It promises valuable insights for future similar initiatives, while also aligning with existing policies aimed at enhancing youth employment in the digital realm. However, it's essential to acknowledge certain limitations. Firstly, there is the potential for attrition and contamination, given the pervasive use of the internet and easy access to information. This presents a notable challenge to the study's efforts in mitigating the unintended spread of intervention details to control groups. Secondly, the study's concentration on a specific age bracket (18-35 years) and specific geographic locations in Kenya (Kiambu, Kisumu, Mombasa) may lead to constraints in the generalizability of its findings beyond these parameters. This focused approach may limit the broader applicability of the study's conclusions.

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