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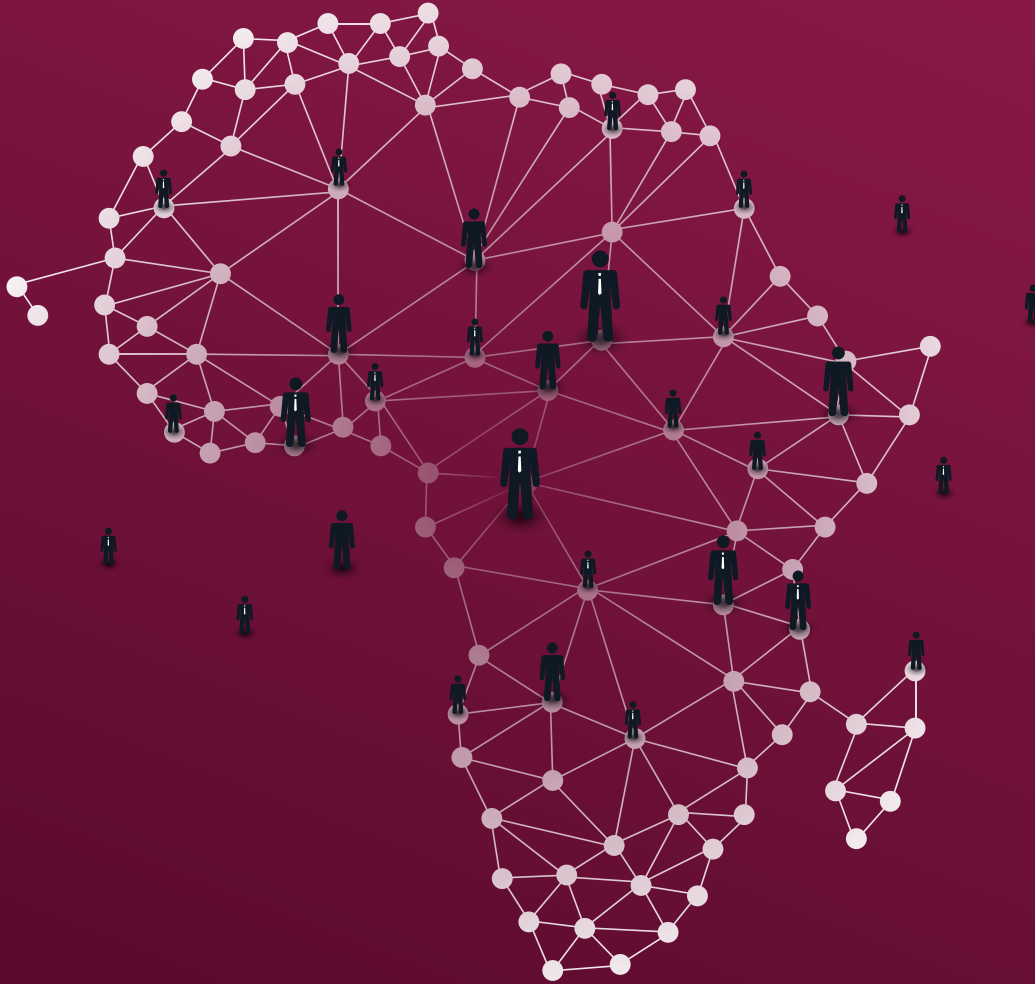
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# Advancing the Future of Work in Africa through Digital Transformation: The Role of Systems Orchestrators

September 2023

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We welcome your feedback on this report and encourage you to reach out to the Dalberg and IBGC teams with your comments.



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## Foreword

Youth unemployment is one of the most pressing challenges facing the African continent. Despite significant economic growth over the past two decades (before COVID), GDP advancement has significantly outpaced job creation, rendering nearly 83% of the Sub-Saharan African Youth who enter the job market unemployed.<sup>1</sup> As the continent with the largest youth population in the world – over 70% of Africans are under the age of 35—<sup>2</sup>young people are the most affected by unemployment. Over the last decade, the population under age 20 increased by over 25%, the fastest rate ever.<sup>3</sup> By 2070 those under 20 will make up the largest share of Africa's population.<sup>4</sup> They will continue to carry the burden of the inadequate pace of job creation.

This complex challenge stems from numerous interlinked forces and factors, including base levels of access, quality, and affordability of education, a lack of alignment between industry needs and institutionally provided skills, the geospatial mismatch between the supply of and demand for skills and talent, rapidly changing demand for skills, digitization of products and services and digitalization of industries, and many others; and relies on the workings of highly intricate labor markets. While there are no silver bullets for achieving efficient outcomes in the near to medium term, digital transformation offers a unique set of possibilities, mainly when thoughtfully applied to accelerate the solutions that demonstrate momentum. From adding greater visibility to the state of labor markets through data, to more effectively linking supply and demand to shaping remote work, several initiatives have been harnessing the power of digital transformation to accelerate the growth of resilient labor markets. However, this acceleration has often been at an unequal pace and with unequal outcomes. This begs the question: How can digital transformation truly support efforts to increase employment, strengthen labor markets, and build readiness and resilience among the workforce? And what might it take to accelerate these efforts?

It was with these questions in mind that we embarked on an exploratory effort—in collaboration with the [IDEA 2030 initiative](#) at Tufts University's Digital Planet, with support from the [Mastercard Center for Inclusive Growth](#)—to determine if the notion of “an accelerator for Africa's digital transformation to advance readiness for the Future of Work” is meaningful in principle and, if so, what form could it potentially take in practice. In recognition of the mission alignment and impact potential, Digital Planet co-invested in our effort to compile key insights along the way that could be shared as a byproduct for the public good. The document that follows is that byproduct.

The insights we gathered from global and African stakeholders and informants underscore the importance of accelerating the readiness for the Future of Work (FoW) through digital transformation in Africa while also delineating several underlying inhibitors of change. Shortfalls are not principally due to a lack of capital or even financial intermediation. On the other hand, we were consistently told that the binding constraint of talent—notably, the kind of leadership talent that can orchestrate diverse partners around these agendas—could benefit from some form of accelerator.

## Abstract

Resilient labor markets are essential to absorb the 375 million young Africans set to enter the job market by 2030.<sup>5</sup> Several ongoing and emerging initiatives have demonstrated the potential of digital transformation in accelerating the growth of resilient labor markets. However, studies and experience show that inclusive digital transformation towards this goal requires more than just discrete investments in infrastructure and apps—it requires systemic shifts. Complementary and continuous investments are crucial in all aspects of the ecosystem, including core infrastructure, enabling infrastructure, applications, policy, skills, and capital/ financing.<sup>6</sup> Dalberg’s digital transformation framework lays out the intersection of these ecosystem components and has been used to support the design of Ethiopia’s Digital 2025 Strategy and, more recently, work with the Digital Impact Alliance (DIAL) to define drivers of digital transformation, with a specific analysis of Kenya’s journey. Digital Planet’s [African Leapfrog Index \(ALI\)](#) further highlights distinctive building blocks and the strengths and opportunities of six major African countries to harness the true potential of digital technologies to drive inclusive growth and increase jobs.

This exploration aimed to understand how to drive and accelerate systemic digital transformation in African labor markets. To do this, we scanned several internal and external initiatives in this space, including an in-depth analysis of two initiatives in Ethiopia and Kenya. Our principal finding is this: in countries that begin to strengthen their labor markets through digital transformation, we observe the presence of a single actor whose role is essential but who often works behind the scenes and with limited capacity. This actor looks beyond infrastructure and applications to clear the path for new solutions and build new systems/ecosystems for the future. This work requires a deep understanding of contexts, the capacity to identify and facilitate new connections, and the ability to recognize how existing power dynamics and influence need to change. We call these actors systems orchestrators.

While the idea of systems orchestration is not new (see Bonnici, Rayner and Walker),<sup>7</sup> its application to digital transformation efforts—particularly in Africa and specifically towards the outcome of greater labor market resilience—is nascent. This report’s three primary objectives, therefore, are to:

1. provide context for, and specific examples of, systems orchestrators at work in Africa on the task of building resilient labor markets through digital transformation —and highlight where these orchestrators have been successful, where they’ve encountered friction, and where gaps remain;
2. explore why there isn’t more investment and more explicit recognition of this role; and finally
3. share reflections and recommendations on what more could be done to enhance the capacity of systems orchestrators and thereby further accelerate digital transformation in Africa.

## Digital transformation is essential for facilitating the growth of resilient labor markets, but it requires a systemic approach

### Africa needs resilient labor markets to absorb the 375 million young people set to enter the job market by 2030.<sup>8</sup>

Unemployment—particularly youth unemployment—is one of the most pressing challenges facing African countries. Around 60% of Africa’s unemployed are youths.<sup>9</sup> In fact, youth in the 15-24 age group have an unemployment rate of 11% across the continent, but this rate is significantly higher in many countries (e.g., 56% in South Africa and 51% in Egypt).<sup>10</sup> This is due to several challenges related to the supply of talent, the demand for skills, and the linkages between the two. First, the continent’s youth population already makes up most of the total population—70% of Sub-Saharan Africans are under 30.<sup>11</sup> The continent’s working population is projected to grow by almost 30% between 2020 and 2030.<sup>12</sup> However, the number of jobs generated by African economies is inadequate to absorb these youth. The formal sector creates only one job per four young people entering the workforce each year.<sup>13</sup> Moreover, many existing jobs struggle to be filled due to the persistent low quality of job seeker skills and the lack of relevance of those skills to the needs of the labor market. According to an AfDB study across 10 African countries, 17.5% of employed youth are over-skilled, 28.9% under-skilled, 8.3% overeducated, and 56.9% undereducated.<sup>14</sup> Given these challenges, strengthening labor markets is a pressing need for African countries.

Over the last few years, a range of initiatives—driven by public, philanthropic, and private sector leaders—have shown the potential of digital transformation to accelerate the growth of resilient labor markets. The figure below provides a non-exhaustive view of some of these interventions.

**Figure 1: Examples of digital interventions in African labor markets**

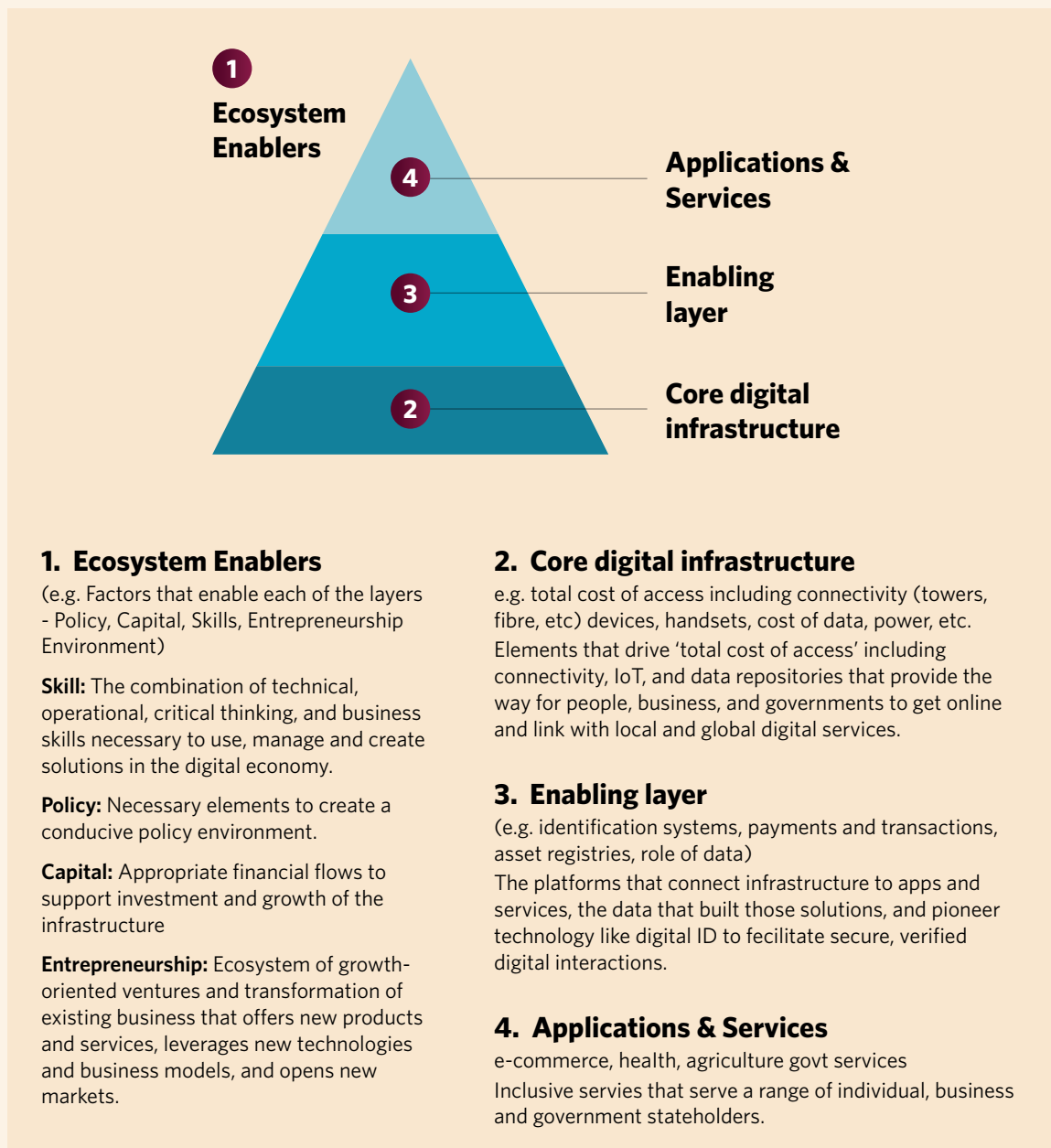


**Our experience in this space shows that labor markets are highly interconnected, and that successful interventions require transformative, systemic change.** Siloed interventions that invest in training youth for the job market without ascertaining whether such skills are relevant to employers' needs—and without ensuring the presence of pathways for employers to recruit and support the growth of new talent—are unlikely to lead to inclusive and sustainable impact. “Systems change” refers to “a comprehensive approach to social change that seeks to address the complex, large-scale, and deep characteristics of social issues.”<sup>15</sup> In the context of labor markets, systemic change requires building comprehensive systems that enable job seekers and employers to access skills and opportunities, meaningful linkages, and better visibility into the labor market through data.

To understand this interconnectedness and the need for systemic digital transformation in African labor markets, we first reflected on and explored the complexity of ‘digital transformation’ as it relates to all long-term impact objectives across sectors.

**Digital Planet defines digitalization as a process through which people’s everyday interactions and transactions—with government, businesses, and fellow humans—and consumption of goods, services, information, and ideas come to be primarily conducted using the internet and internet-based technologies and services.**<sup>16</sup> This process is complex, it is difficult, and it requires addressing the entire digital ecosystem—including four distinct ecosystem components:<sup>17</sup> (i) Ecosystem enablers (these include enabling factors such as skills, policy and institutional effectiveness, capital or financial flows, and the entrepreneurship ecosystem); (ii) Core digital infrastructure (this includes the elements that drive the “total cost of access”, such as electricity, communications infrastructure, mobile access availability and affordability, and internet speed); (iii) The enabling layer (this includes the platforms that connect infrastructure to applications and services, such as digital identification that facilitates secure and verified digital transactions, digital payments, asset registries, and delivery infrastructure for e-commerce); and (iv) Applications and services (these refer to all the services that serve individuals, businesses, and government stakeholders across different sectors, such as agri-tech, e-commerce, m-health, and EdTech).

**Figure 2: Framework for building and sustaining an inclusive digital ecosystem<sup>18</sup>**



This framework demonstrates the interconnectedness of the various ecosystem elements crucial to driving digital transformation across all sectors. Creating applications and services in any field relies on several layers, including core infrastructure, enabling resources, and ecosystem enablers. Therefore, inclusive and sustainable digital transformation demands a systemic approach that works across the entire ecosystem.



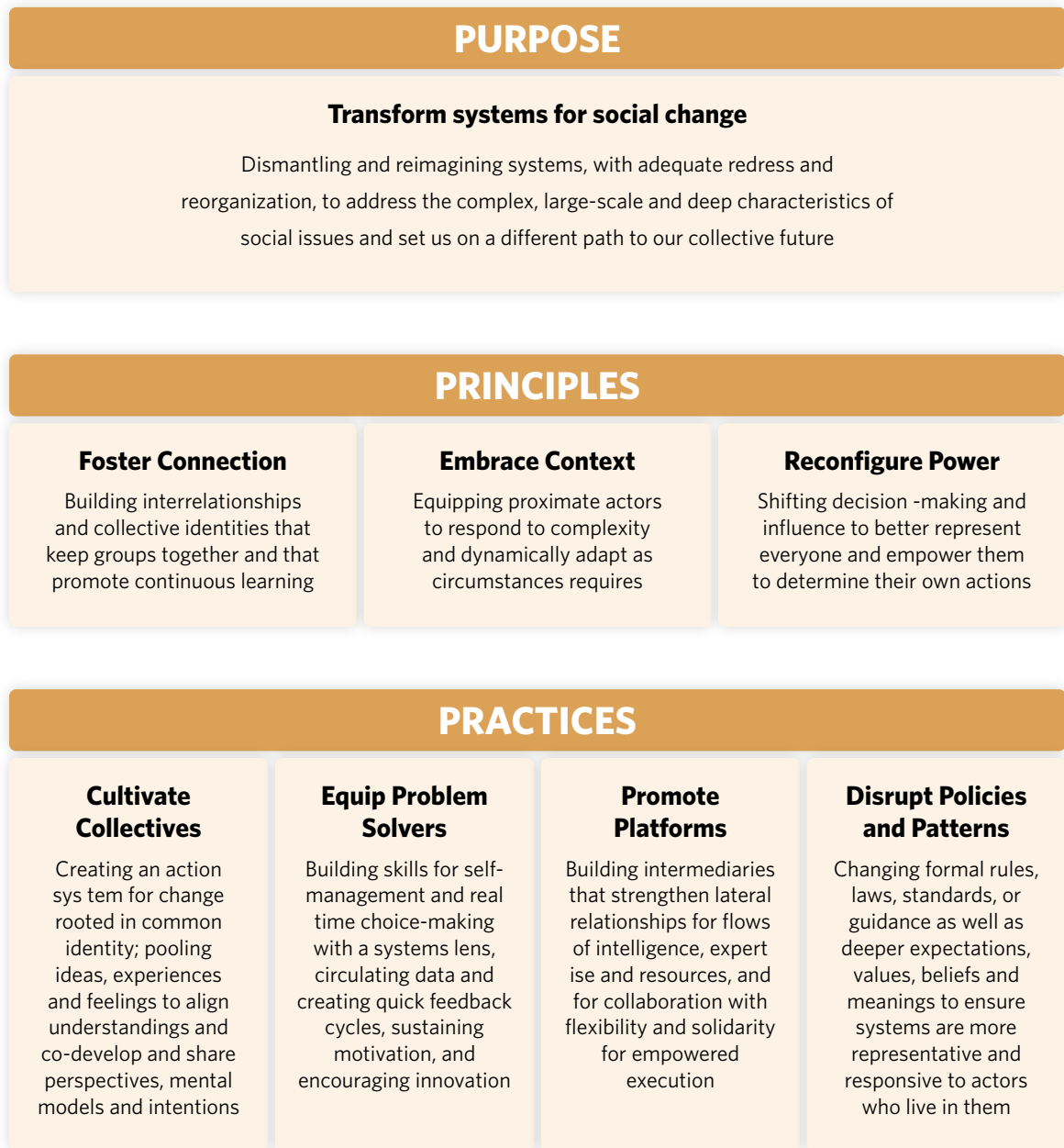
## Systems orchestrators are needed to drive systemic digital transformation in African labor markets

**In a number of instances where we are starting to see substantial change, we have observed the presence of a single actor that can drive and coordinate this change.** These actors generally have three key attributes: (i) they have situational awareness of the full context of the system they operate in; (ii) they seek to foster connections across the key stakeholders in the system; and (iii) they attempt to reconfigure power within the system by maintaining neutrality and ensuring that decisions are truly reflective of all key stakeholders in the system.<sup>19</sup>

**These actors are referred to by several experts and practitioners as “systems orchestrators.”** They are the stewards of “transformational change” and constitute the critical ingredient needed to accelerate and drive digital transformation to strengthen labor markets. As Rayner and Bonnici explain, the core of systems change is truly transformational change, which requires a transformational vision for how the ideal system should function. After stakeholders within a system have set a vision for change, an orchestrator that has legitimacy among them is needed to “coordinate action across groups, organizations, and sectors to scale the proposed solution”.<sup>20</sup>

**In our work with systems orchestrators, we see familiarity with the traits that Rayner and Bonnici have outlined in systems orchestrators.** For instance, as the figure below shows, systems orchestrators use four distinct types of tactics to drive transformational change: (i) **Cultivating collectives** (building common identities by ensuring that stakeholders share common mental models for change); (ii) **Equipping problem solvers** (gathering and sharing data that allow everyone within the system collectively to decide how to assess progress and adjust course to achieve change); (iii) **Promoting platforms** (encouraging the lateral flow of knowledge to promote collaboration across stakeholders within the system); and (iv) **Changing policies and patterns** (tackling head-on a key policy or practice that is the primary barrier to systems change within the current system).<sup>21</sup>

**Figure 3: Principles and functions/tactics of systems orchestrators**



## Deep-dive initiatives that demonstrate the role of systems orchestrators in African labor markets

To illustrate the pragmatic role systems orchestrators play, we focus on two high-profile digital efforts to transform labor markets. While our study began with a scan of a longer list of initiatives,<sup>22</sup> we selected these two examples because they (i) revolve around African labor markets and aim to facilitate youth employment in their respective countries and (ii) are initiatives that Dalberg has directly worked on, and therefore can discuss authoritatively. Both examples point to the need to fund and structure systems orchestrators over the medium to long term, as their work needs to be sustained beyond the initial kick-start of the digital transformation process.

### Ethiopia – leveraging digital tools to accelerate labor market advancement

#### Systems Orchestrators



Ethiopia's labor market system is characterised by a number of critical supply- and demand-side information gaps. As over half of Ethiopia's wage-employment comes from the public sector,<sup>23</sup> the government of Ethiopia is a crucial actor in coordinating and driving labor market demand. However, the government lacked critical information about the country's labor market structure and unemployment. This information is essential for two reasons: (i) it allows the government to assess where and how to invest in generating demand for labor to absorb the supply of unemployed Ethiopians, and (ii) it allows the government to determine whether its investments are successfully generating employment. On the supply side, the government processes for helping job seekers find employment and connecting them to opportunities in the formal economy were entirely paper-based. As a result, job seekers struggled to discover where to find these opportunities, both in terms of geography and sectors of the economy.

**Ethiopia's Jobs Creation Commission (JCC) was created to address critical challenges in the Ethiopian labor market, including data and information gaps.** The Jobs Creation Commission (JCC) was created in 2018 with a mandate to govern, monitor, and coordinate all governmental and non-governmental efforts in creating jobs.<sup>24</sup> To achieve this, the Commission used several systems orchestration tactics, including cultivating collectives and equipping problem solvers.

**Cultivating collectives:** The Jobs Creation Commission (JCC) played a key role in coordinating the complex ecosystem of public sector entities, private sector actors and development partners that play interconnected roles in the Ethiopian labor market. For instance, when the JCC launched an initiative to place 'FROG' (Freelancing, Outsourcing, and Gigs) at the core of Ethiopia's Services sector transformation, it strategically involved several stakeholders. The commission developed a taskforce of public and private sector stakeholders to enable and strengthen linkages between the elements of the 'FROG' economy to accelerate job creation, which collaboratively designed 48 strategic interventions. In addition, the JCC formed a FROG integrated public-private partnership platform (iP4), which includes all the interventions, and enables active and ongoing collaboration and contributions from all partners.<sup>25</sup> Finally, the commission also formed a syndicate of public sector stakeholders to identify interventions to make Ethiopia a BPO (Business Process Outsourcing) hub, including the Ethiopian Investment Commission, the Ministry of Science and Higher Education, and the Ministry of Innovation and Technology.

**Equipping problem solvers:** The JCC partnered with the Mastercard Foundation and Dalberg to set up a labor market information system (LMIS) in 2020. The purpose of the LMIS is to provide standard labor market information and data for the public, private, and social sectors to inform decision-making and catalyze job growth and placements. The JCC also established LMIS-Services, a mobile app that allows jobseekers to register their employment status digitally, and LMIS-Insights, a digital platform that pulls data records across multiple government ministries. Through these initiatives, the JCC equipped all ecosystem actors to make real-time evidence-based decisions. For instance, the LMIS (and its related platforms) provide new insights to the government as well as employers on the composition of the labor market, and enable the government and development partners to assess the effectiveness of ongoing youth employment initiatives.

**The JCC's initiatives have led to significant progress in addressing Ethiopia's unemployment challenges.** In fact, the JCC platforms were able to pull together 400,000 data records from multiple public sector entities,<sup>26</sup> and the LMIS-Services application was used by hundreds of thousands of users. On the other hand, the commission also faced several challenges, including recruiting and retaining the necessary digital skills to grow the LMIS sustainably, and securing sustainable funding streams. In October of 2021, the Jobs Creation Commission integrated into a Ministry (Ministry of Labor and Skills) with an expanded mandate.

## Kenya – aligning the public and private sector

### Systems orchestrators



MINISTRY OF INFORMATION,  
COMMUNICATIONS AND THE  
DIGITAL ECONOMY

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In 2016, a third of Kenyans between the ages of 18 and 34 were unemployed.<sup>27</sup> Despite significant public and private sector investments in growing the digital economy, the formal job market was not growing fast enough to absorb the increasing number of young people seeking jobs.

In response, the Kenyan Ministry of ICT Innovation and Youth Affairs created the Ajira Digital Program, to empower one million young people to access digital and digitally-enabled jobs. Ajira (which means “work” in Kiswahili) Digital intended to leverage digital technology to address both supply-side challenges (i.e., the lack of digital skills that the formal market required, connectivity and devices) and demand-side issues (i.e., the insufficient number of public and private sector jobs in the digital economy). More specifically, the program has four specific objectives: to (i) raise the profile of online work among all Kenyans, (ii) foster a mentorship and collaborative learning approach to finding online work, (iii) enable access to online work for all Kenyans, and (iv) promote Kenya as a destination for online workers. To achieve these objectives, the Ajira Digital program employed several systems orchestration tactics, including cultivating collectives, equipping problem solvers and disrupting policies and patterns.

**Cultivating collectives:** Part of AJIRA Digital’s promotion of demand for digital skills was through cultivating a shared belief that the public sector should help drive the digital economy across government agencies. For instance, the program worked closely with the Kenyan Judiciary to begin digitizing its transcription services and helped reimagine its role in the digital economy. In addition, Ajira Digital also extensively engages private sector organizations—including small and medium-sized enterprises (SMEs) and corporate partners such as Business Process Outsourcing (BPO) companies.

**Equipping problem solvers:** Ajira Digital equipped a diverse set of ecosystem actors to become joint problem-solvers for youth employment in the digital economy. For example, the program promoted a free flow of information across all ecosystem actors, including through an online platform that brings transparency to the demand for and supply of digital jobs in the country. In addition, Ajira Digital’s Theory of Change includes ‘Capacity building to online platforms and MSMEs’, which ultimately leads to ‘Increased digital work opportunities available from the private sector’.<sup>28</sup>

**Disrupting policies and patterns:** Ajira Digital disrupted siloed ways of working and connected the demand and supply sides of the ecosystem. More specifically, Ajira Digital ensured that the program incorporated and closely coordinated the training components (led by eMobilis) with the job creation components (led by the Kenya Private Sector Alliance) and the Ministry of ICT Innovation and Youth Affairs spearheading strategic and policy roles.

**Ajira Digital's progress demonstrates that when stakeholders recognize the need for an orchestrator, they may benefit from bringing on an external accelerator to kickstart the work.** The Ministry of ICT Innovation and Youth Affairs and the Kenya Private Sector Alliance (KEPSA)—together recognized the need for an orchestrator like Ajira Digital. At the time, however, KEPSA had limited capacity to initiate the process. Therefore, KEPSA partnered with Dalberg to support setting up the program through a design-incubate-transfer (DIT) model. Dalberg was responsible for designing components of the initial Ajira Digital strategy, overseeing and managing the KEPSA-led Ajira Digital workstreams, and transferring these capabilities to the KEPSA team. The design-incubate-transfer process was supposed to last two years. However, due to rapid capacity growth within KEPSA, Dalberg was able to transfer Ajira Digital over to KEPSA after only one year. Based on the program's early success (i.e., By June 2020, the program had connected directly 30,000 youth to jobs in all 47 counties of the country<sup>29</sup>), the Ministry of ICT Innovation and Youth Affairs supports Ajira Digital financially by assigning personnel to work on the program and making government facilities and infrastructure available to Ajira Digital.



## Supporting systems orchestrators is not a straightforward solution

**Despite their critical roles, orchestrators often fall short or remain unrecognized.** Our consultations with a diverse set of stakeholders, including donors, public sector officials, and private sector partners indicate that many ecosystem actors acknowledge the value of the skills and capabilities that systems orchestrators contribute. However, they highlight three barriers that limit investments into orchestrators: (i) critical stakeholders are often not aware of the need for system orchestration, (ii) orchestrators can be difficult to establish, and (iii) it can be challenging to measure the orchestrators' impact, which affects their access to resources.

- **Barrier 1 – Lack of awareness of the role:** Many ecosystem actors (including funders and development partners) often subscribe to relatively linear Theories of Change (ToCs). Unlike systemic approaches, these do not fully account for the complex systems in which they operate, including the range of systems components, their complex power dynamics, and the non-linear feedback loops that relate them to each other. As a result, many stakeholders are initially unaware of the need for an actor to drive the overall transformation of a system. In addition, because systems orchestrators are generally behind-the-scenes players, their contributions often go unnoticed.
- **Barrier 2 – Difficulty to establish systems orchestrators:** Even when awareness exists, systems orchestrators are challenging to establish and operate. First, it can be challenging to know what skills and capabilities a systems orchestrator will need, and even more difficult to establish an orchestrator with those capabilities. For example, systems orchestrators may need in-house digital, strategy, and procurement expertise, which are difficult to assess and source, particularly in countries where these talents are scarce and concentrated in the private sector. Second, systems orchestrators necessitate high levels of legitimacy to work with and coordinate among all the stakeholders in the system, which requires high levels of political will and action. Third, in highly complex ecosystems, it is difficult to identify the right entity that can play the role of systems orchestration (i.e., identifying an existing entity that meets the criteria for systems orchestrators, or making the decision to establish a new entity).
- **Barrier 3 – Difficulty to define and attribute impact:** Financing for orchestrators is often constrained because it is challenging for orchestrators to define and demonstrate their impact. First, systems orchestrators' impact timeframes are often mismatched with funders' requirements. While pilots can help demonstrate early impact, transformational change is inherently a years-long process, and there is an inevitable time lag between investments in systems orchestration and the achievement of quantifiable results. On the other hand, funding practices often prioritize initiatives with short-term measurable impact. Second, orchestrators often face impact attribution challenges. Since they are "stewards" of systemic change, attributing specific on-the-ground results to systems orchestrators' efforts can be difficult.

To overcome these three barriers and establish successful systems orchestrators, we have identified three strategies that merit further exploration.

### **Strategy 1: Effectively advocate for systems orchestrators**

**Practitioners, civil society organizations, and funders should use case studies of successful systems orchestrators to raise awareness of their importance and advocate for necessary investments.** We recognize that it can be difficult for stakeholders within an existing system to imagine the role(s) that an orchestrator might play in driving change. Moreover, previous failed efforts can leave stakeholders disillusioned about the prospect of change or reluctant to invest in innovation. Therefore, there is an urgent need to identify and publicize successful examples and case studies of systems orchestrators, such as LMIS and Ajira Digital, especially in similar contexts (e.g., similar problem areas / geographies / sectors). Raising awareness of the value and viability of orchestrators will help facilitate access to the financial and human resources needed to establish them.

### **Strategy 2: Build orchestrators with the legitimacy and capacity to get the job done**

Once stakeholders recognize the need for a stakeholder, the challenging part is to ensure that (prospective) orchestrators have the legitimacy and skills necessary to drive transformational change.

**Legitimacy is the touchstone of systems change.** The two case studies in this report demonstrate that successful orchestrators can be housed within either public entities (e.g., Ethiopia's Jobs Creation Commission) or private entities (e.g., the Kenyan Private Sector Alliance). However, the core determinant of success is that the orchestrator must be seen as neutral and working in the interest of all stakeholders in the system. Otherwise, (prospective) orchestrators will not be accepted as the legitimate, impartial driver of systemic change.

**In addition to legitimacy, orchestrators must be set up for success by ensuring that they have the required capacity and skills to fulfill their responsibilities.** In-house access to the right skills (e.g., strategy, digital skills, etc.) is a significant challenge in many countries, especially when these skills are concentrated in the higher-paying private sector. One strategy to overcome this initial skills gap is to deploy a design-incubate-transfer model to build orchestrator capacity rapidly. As the experience of Ajira Digital demonstrates, external skilled partners can provide surge capacity to kick-start the process before facilitating a complete transfer of this capacity to the orchestrator. Funders and private sector actors should also consider supporting fellowships to supply orchestrators with in-house strategic and digital talent in the long term. These programs can attract young talent into orchestrators for 2-4 years, which can be sufficient to help scale the orchestrator and attract more talent.



### **Strategy 3: Provide patient capital to account for the time needed to demonstrate success**

**Because orchestrators take time to yield quantifiable impact, funders must provide patient capital to pilot and scale them.** As the Ajira Digital and the Jobs Creation Commission (JCC) examples demonstrate, orchestrators can point to early-stage successes like increased job training or job placements. However, transformational change—such as large-scale reductions in unemployment or rapid growth in nascent industries—takes far longer. Orchestrators are crucial to driving this degree of change—but they need to be supported by patient capital. Once they demonstrate this level of success, government funding is generally easier to secure.

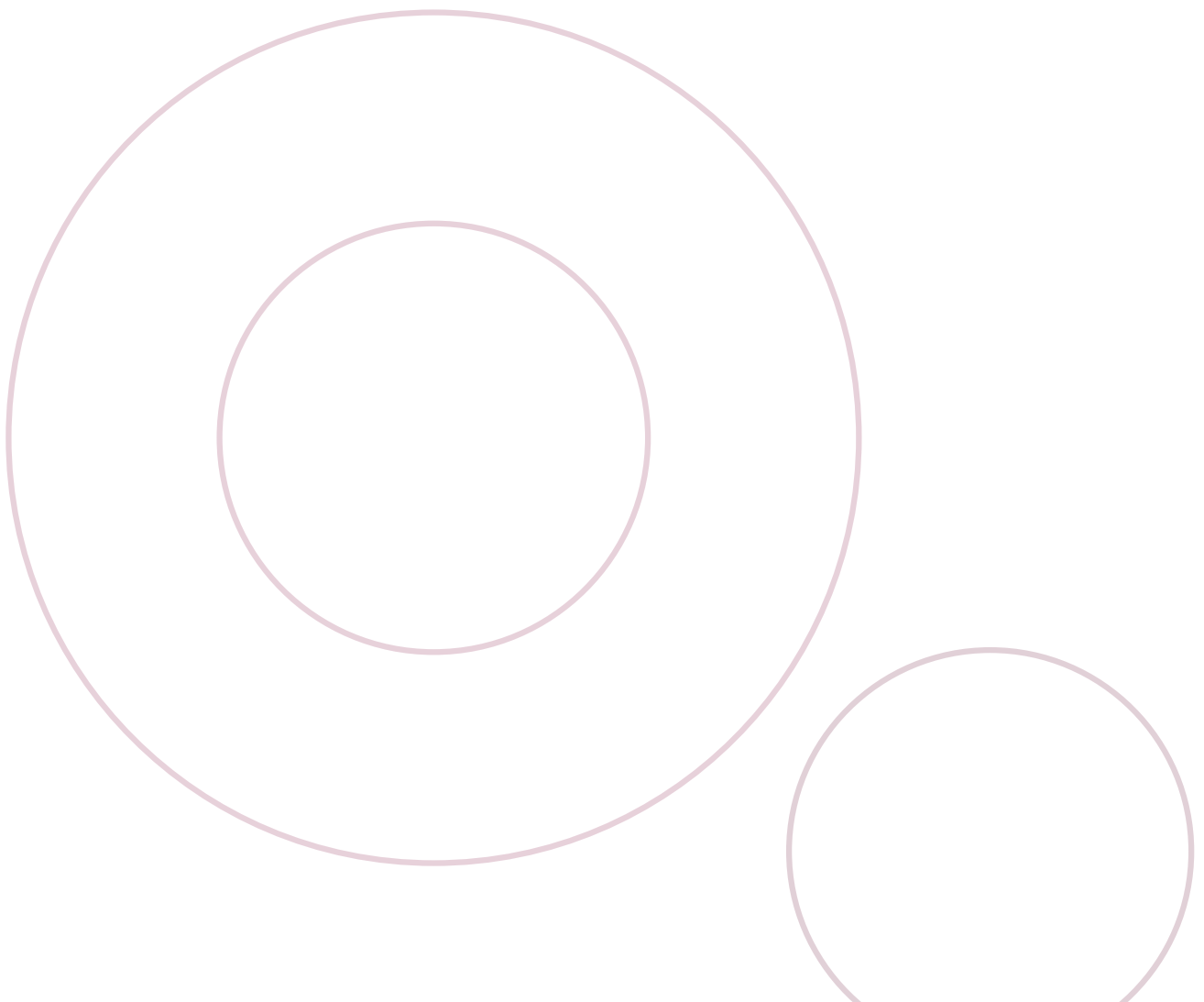
**At the same time, orchestrators must develop accurate and effective processes for evaluating their effectiveness at regular intervals.** Because orchestrators target systemic change, they cannot meaningfully assess themselves against their end goal. Instead, we recommend conducting monthly self-evaluations, as well as periodic independent evaluations, aimed at answering the following questions:

- Are the orchestrator's critical partners still engaged and motivated to continue 'playing big' to drive change? Every orchestrator works directly with specific key stakeholders (e.g., Kenya's Ministry of ICT Innovation and Youth Affairs and Kenya Private Sector Alliance). They must ensure that these key "customers" are satisfied with the progress and ready to continue placing big bets on change. If they are not, orchestrators will be unable to continue their work.
- Are the stakeholders in the broader ecosystem engaged in the orchestrator's work and aligned on a shared vision? This question is meant to ensure that the orchestrator's direction of travel retains legitimacy with critical stakeholders as the orchestrator tries to drive system change.
- Is the orchestrator achieving interim milestones that will open new pathways for change? Instead of measuring progress against the desired final state, orchestrators should measure their progress against pivotal interim milestones (e.g., a policy change, the creation of a new partnership, the launch of a new platform, etc.) that open further pathways for change.
- Has the orchestrator demonstrated its work's impact potential on a small scale? Even though orchestrators need time to deliver transformative impact, they can demonstrate potential on a small scale (e.g., initial statistics that show a decrease in unemployment rates).

## **Conclusion: A call to action for funders, governments, and private sector partners**

As digital transformation efforts in Africa's labor markets have shown, the challenge of driving broader digital transformation (across sectors) hinges on the presence of systems orchestrators. Siloed approaches do not work because digital transformation is systemic in nature, and systemic change relies on systems orchestrators. Where they have been established, orchestrators have demonstrated an impressive capacity to bring together disparate actors to develop and lead an ambitious and shared vision. However, too many sectors in too many geographies lack an actor positioned to understand the full context of the entire system, foster coordination among all key stakeholders, and maintain neutrality.

Funders, governments, and private sector actors must act now to create systems orchestrators where they are absent and support those already active. With stable and empowered orchestrators, African countries can accelerate digital transformation to achieve rapid socioeconomic progress.



## Annexes

### Methodology

#### Key questions

The Dalberg team has been reflecting on our work over the last few years, and engaging external stakeholders to determine what more can be done to accelerate digital transformation across Africa, focusing on models that will help nations advance their readiness for the FoW (i.e., education to employment). In particular, Digital Planet and Dalberg explored the following critical questions:

- What are the unique opportunities to accelerate digital transformation efforts across Africa?
- Specifically, how can digital transformation support efforts to increase employment, strengthen labor markets, and unlock the Future of Work in African countries?
- What would it look like to accelerate these efforts? What specific models and interventions could be applied?
- Where do we see momentum from other ecosystem actors to engage in these efforts and/or interventions?

#### Overview of the approach

To achieve this, we conducted (i) a **literature review** of studies and publications in the Future of Work space and a scan of projects and initiatives that showcase existing efforts in this field; (ii) direct and indirect **engagement with a range of stakeholders** working on various aspects of digital transformation; (iii) an in-depth review of a few **specific African initiatives** that seek to prepare for the Future of Work (Ajira Digital and Jobs Creation Commission); (iv) working sessions with the Dalberg and IBGC teams to **shape a hypothesis** about systems orchestration, as well as its role in accelerating digital transformation in the context of the Future of Work; and (v) additional **stakeholder engagements to validate these hypotheses** and identify pockets of momentum in the ecosystem.

#### Literature review

The team reviewed existing studies, research papers, and publications related to digital transformation and the Future of Work (including education, up/reskilling, job creation, etc.), with a focus on Africa. The table below provides a bibliography of some of these publications.

Title	Author	Year
Advanced Software Product Development Skills in Sub-Saharan Africa: Landscape Report	Dalberg Advisors / DIAL	2018
An Action Plan to Solve the Industry's Talent Gap	World Economic Forum, BCG	2018
Building Africa's Artificial Intelligence Talent: 1 million Artificial Intelligence Talents in 10 years	Data Science Nigeria	2020
Building Back Broader: Policy Pathways for an Economic Transformation	World Economic Forum Centre for the New Economy and Society	2021
Building Digital Workforce Capacity and Skills for Data-intensive Science	OECD Global Science Forum	2020
Building Smart Societies – A Blueprint for Action	Digital Planet, The MasterCard Center for Inclusive Growth	2022
Coding Bootcamp Market Size and Forecast	Verified Market Research	2021
Defining the End State Ecosystem: How Can We Get Better at It?	Dalberg Advisors, on IPS News	2019
Digital Development Training Landscape and Needs Assessment: Phase 1 & 2	Principles for Digital Development	2019
e-Conomy Africa 2020	Google, IFC	2021
Global Data Shows Surge in Remote Work	LinkedIn	2020
Global Skills Report 2021	Coursera	2021
Human Capital as an Asset: An Accounting Framework to Reset the Value of Talent in the New World of Work	World Economic Forum, Willis Towers Watson	2020
Labor Market Analysis and Curriculum Gap Assessment Using Big Data in Kenya	Headai Finland / World Bank	2019
Should You Agitate, Innovate, or Orchestrate?	Julie Battilana and Marissa Kimsey on the Stanford Social Innovation Review	2017

Title	Author	Year
State of the Coding Bootcamp Market Report	Career Karma	2020
The African Leapfrog Index (ALI)	Digital Planet, The MasterCard Center for Inclusive Growth	2019
The Digital Intelligence Index	Digital Planet, The MasterCard Center for Inclusive Growth	2020
The Future of Work (special reports)	The Economist, Callum Williams	2021
The Future of Work in Africa: Harnessing the Potential of Digital Technologies for All	Africa Development Forum	2019
The Future of Jobs and Skills in Africa: Preparing the Region for the Fourth Industrial Revolution	World Economic Forum	2017
The Future of Jobs Report 2020	World Economic Forum	2020
The Skills Balancing Act in Sub-Saharan Africa - Development Forum Investing in Skills for Productivity, Inclusivity, and Adaptability	Agence française de développement and the World Bank	2019
The Systems Work of Social Change: How to Harness Connection, Context, and Power to Cultivate Deep and Enduring Change	Cynthia Rayner and François Bonnici	2021
The Upskilling Imperative - Building a Future-ready Workforce for the AI Age	Deloitte	2020
Then and Now: How Jobs Changed, Pre- and Post-Pandemic	Cognizant	2022
Upskilling for Shared Prosperity	World Economic Forum	2021
Youth Jobs, Skill, and Educational Mismatches in Africa	African Development Bank (AfDB)	2019
Working Group on Education: Digital Skills for Life and Work	Broadband Commission for Sustainable Development	2017

### Stakeholder engagement

Throughout this study, we engaged a number of experts and ecosystem actors in the Future of Work space, to learn from their experiences, validate our hypotheses, and test potential opportunities to accelerate digital transformation in this field. In addition to direct engagements, we also leveraged several fora to exchange ideas and validate our hypotheses. These have included:

- The World Economic Forum (WEF) Global Future Council on the New Agenda for Work, Wages, and Job Creation
- The Center for Strategic & International Studies (CSIS) private roundtable on Rethinking the Digital Divide in a Post-Pandemic World
- Digital Planet’s IDEA 2030 Conclave ‘The Internet’s Turn? When the Pandemic Planet Became a Digital Planet’ (Dec 2021)

The table below includes the key stakeholders we engaged for this study.

Organization(s)	Brief overview
Acumen Academy	Acumen Academy serves a community of social innovators and builders who are willing to embrace the challenge of solving the world’s toughest problems and provides the practical tools, practices, and resources needed to create new solutions for an interdependent world.
Andela	Andela is a global job placement network for software developers. Andela focuses on sustainable careers, connecting technologists with long-term engagements, access to international roles, competitive compensation, and career coaching through the Andela Learning Community.
Carnegie Mellon University	Carnegie Mellon University is a private research university based in Pittsburgh, Pennsylvania. The university has a center of excellence in Kigali, Rwanda (Carnegie Mellon University-Africa), which provides world-class ICT courses for Africa’s youth taught by professors from around the world. Erina Ytsma (an Assistant Professor at CMU) serves on the New Agenda for Work, Wages, and Job Creation council (WEF).
Centre for the New Economy and Society	The Centre for the New Economy and Society (CNES) aims to shape prosperous, resilient, and equitable economies and societies that create opportunity for all. The Centre creates new insights and develops systems change initiatives across four areas: economic growth, revival and transformation; work, wages and job creation; education, skills, and learning; diversity, equity, inclusion, and social justice; and global risks.

Organization(s)	Brief overview
Data.org	Data.org is a platform for partnerships to build the field of data science for social impact. The platform works with organizations from all over the world to increase the use of data science in order to improve the lives of millions of people—including training data talent in the social sector.
Digital Impact Alliance (DIAL)	The Digital Impact Alliance (DIAL) at the United Nations Foundation has a vision to realize a more inclusive digital economy for the underserved in emerging markets so that all women, men, and children can benefit from life-enabling, mobile-based digital services. DIAL aspires to achieve this vision by accelerating the collective efforts of government, industry, and development organizations.
EkStep Foundation	EkStep is a non-for-profit foundation that aims to extend learning opportunities to millions of Indian children through a collaborative, universal platform that facilitates creation and consumption of educational content. The Foundation has played a systems orchestration role in India's EdTech space, and its leadership team has significant experience coordinating among a broad range of public, private, and civil society actors across several sectors.
Ford Foundation	The Ford Foundation is an American private foundation with the stated goal of advancing human welfare. One of the Foundation's focus areas is "The Future of Work(ers)," where they focus on five key outcomes: improved worker rights policies; increasing worker influence on global institutions; supporting business practices that lead to a more just, resilient economy for all; changing narratives on labor rights and social protections; and more robust funding in this field.
Google.org	Google.org, founded in October 2005, is the charitable arm of Google. The organization is noted for several significant grants to nonprofits using technology and data in innovative ways to support racial justice, educational opportunity, crisis response after health epidemics and natural disasters, etc.
International Labor Organization (ILO)	The International Labor Organization is a United Nations agency whose mandate is to advance social and economic justice through setting international labor standards.
Institute for the Future of Work	The Institute for the Future of Work is an independent research and development institute exploring how new technologies are transforming work and working lives.
Mastercard Foundation	The Mastercard Foundation works with visionary organizations to enable young people in Africa and in Indigenous communities in Canada to access dignified and fulfilling work. Their Young Africa Works program aims to enable 30 million young people, particularly women, to secure employment that they see as dignified and fulfilling, by 2030.
Moringa School	Moringa School is a multi-disciplinary learning accelerator committed to closing the skills gap in Africa's job markets by delivering transformative tech-based learning.
SkillLab	SkillLab is an impact business from Amsterdam that seeks to empower people to turn their skills into careers.
The Global Development Incubator	GDI is an incubator for transformational development ventures, working to build and scale the next generation of social impact solutions.

## Endnotes

- 1 'Jobs for Youth', African Development Bank
- 2 'Young People's Potential, the Key to Africa's Sustainable Development', UN OHRLLS
- 3 'Creating Decent Jobs Strategies, Policies, and Instruments', African Development Bank Group, 2019
- 4 'African Economic Outlook: Developing Africa's Workforce for the Future', African Development Bank, 2020
- 5 'Structural transformation to boost youth labour demand in sub-Saharan Africa: The role of agriculture, rural areas and territorial development', International Labor Organization, 2016
- 6 See Dalberg Inclusive Digital Transformation framework
- 7 The terms 'systems work' and 'systems orchestration' have been introduced and studied by a range of actors—including Cynthia Rayner and François Bonnici ('The Systems Work of Social Change', 2021), Jeff Walker in a range of work published in SSIR, and the Africa Philanthropy Forum
- 8 'Structural transformation to boost youth labour demand in sub-Saharan Africa: The role of agriculture, rural areas and territorial development', International Labor Organization, 2016
- 9 'Moving The Needle On Youth Unemployment In Africa: From learning to Employment', NEPAD, 2021
- 10 'Youth Unemployment Dilemma in Africa: An Examination of Recent Data', Leaders of Africa, 2021
- 11 'Young People's Potential, the Key to Africa's Sustainable Development', UN OHRLLS
- 12 'The Demography of the Labor Force in Sub-Saharan Africa: Challenges and Opportunities', IZA Institute of Labor Economics, 2019
- 13 'Moving The Needle On Youth Unemployment In Africa: From learning to Employment', NEPAD, 2021
- 14 'Youth Jobs, Skill and Educational Mismatches in Africa', African Development Bank, 2020
- 15 'The Systems Work of Social Change', Cynthia Rayner and François Bonnici, 2021
- 16 'Digital Planet 2017: How Competitiveness and Trust in Digital Economies Vary Across the World', Bhaskar Chakravorti and Ravi Shankar Chaturvedi, The Fletcher School, Tufts University, July 2017
- 17 Dalberg's digital transformation framework (see in 'Digital ID in Nigeria: state of the industry', Dalberg, VerifyMe)
- 18 Dalberg's digital transformation framework (see in 'Digital ID in Nigeria: state of the industry', Dalberg, VerifyMe)
- 19 'The Systems Work of Social Change', Cynthia Rayner and François Bonnici, 2021
- 20 Ibid
- 21 Ibid



- 22 Example of systems orchestration: The '[Building Smart Societies - A Blueprint for Action](#)' report by The Fletcher School highlights a successful systems orchestration example from New Zealand. The Government Chief Digital Officer (GCDO) set up a partnership framework (the Digital Government Partnership) based on the core mantra of "centrally led, collaboratively delivered", which involved 21 agencies from across government to lead change in digital services, technology, information, and investment. One of the results of this framework was setting up SmartStart - a first of its kind predictive service for new and expectant parents to access support and information in one place, instead of going through multiple agencies.
- 23 '[What explains wage differentials for the urban wage earners: Returns to education for Ethiopia's urban wage employed](#)', World Bank Group, 2021
- 24 [Jobs Creation Commission website](#), Ethiopian government
- 25 'Government and JobTech in Africa' [Job Tech Alliance](#), 2022
- 26 [Jobs Creation Commission website](#), Ethiopian government
- 27 'Report on the Implementation of the Ajira Digital Program Through the Design Implementation Transfer (DIT) Delivery Model', Dalberg Implement
- 28 'Report on the Implementation of the Ajira Digital Program Through the Design Implementation Transfer (DIT) Delivery Model', Dalberg Implement
- 29 '[Ajira Digital Program: Creating Digital and Digitally Enabled Jobs for Kenya's Youth](#)', Dalberg; '[60,000 Ajira Digital graduates earn living through online jobs](#)', ICT.Go.ke

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