

THE ECOSYSTEM AND DIGITAL ECONOMY IN LATIN AMERICA

A presentation to the Council of Europe



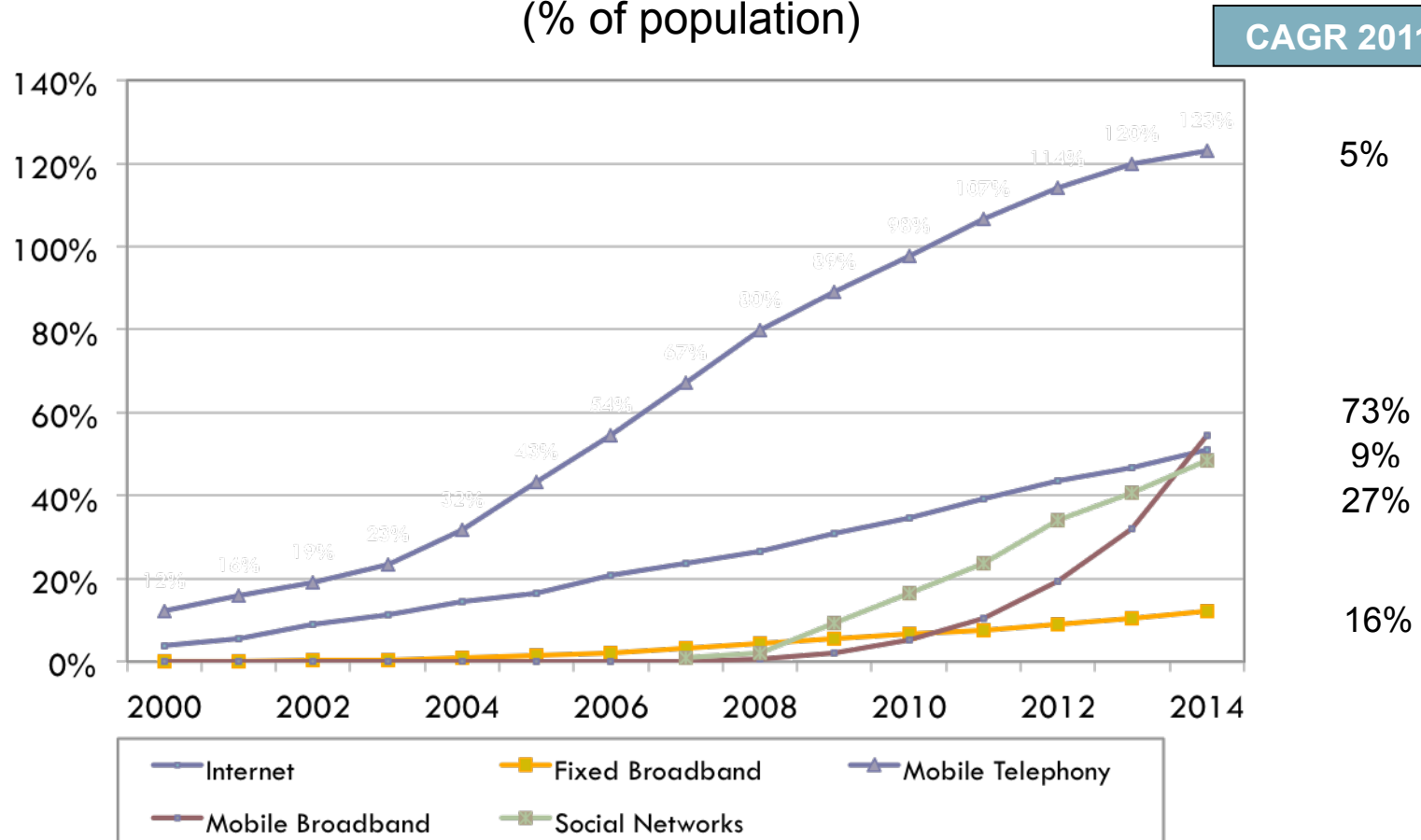
Telecom Advisory Services, LLC

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ADOPTION OF COMMUNICATION TECHNOLOGIES IN LATIN AMERICA CONTINUES TO GROW LEADING TO THE INCREASING IMPORTANCE OF MOBILE ACCESS TO DIGITAL PLATFORMS

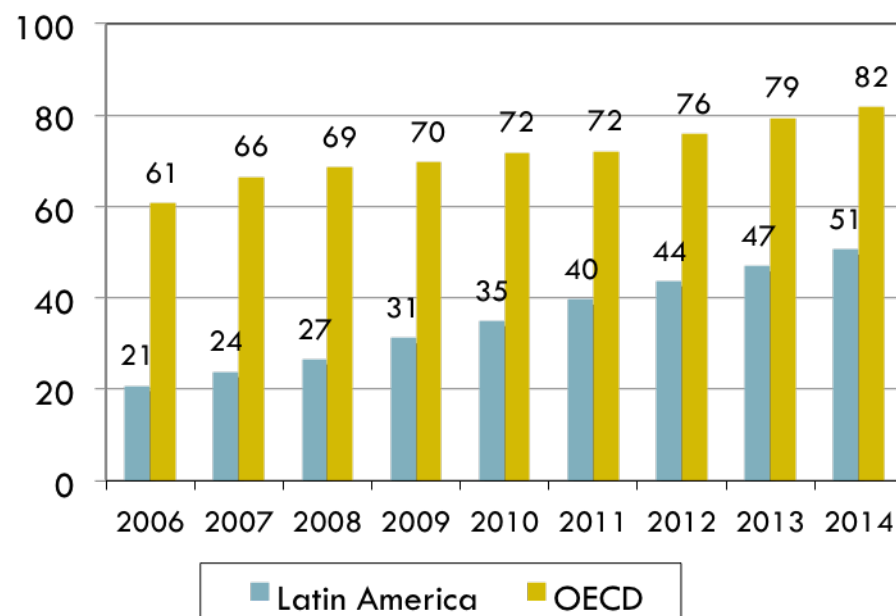
INFORMATION AND COMMUNICATION TECHNOLOGIES PENETRATION (2000-14) (% of population)



Sources: International Telecommunications Union; GSMA Intelligence; Owloo; Telecom Advisory Services analysis

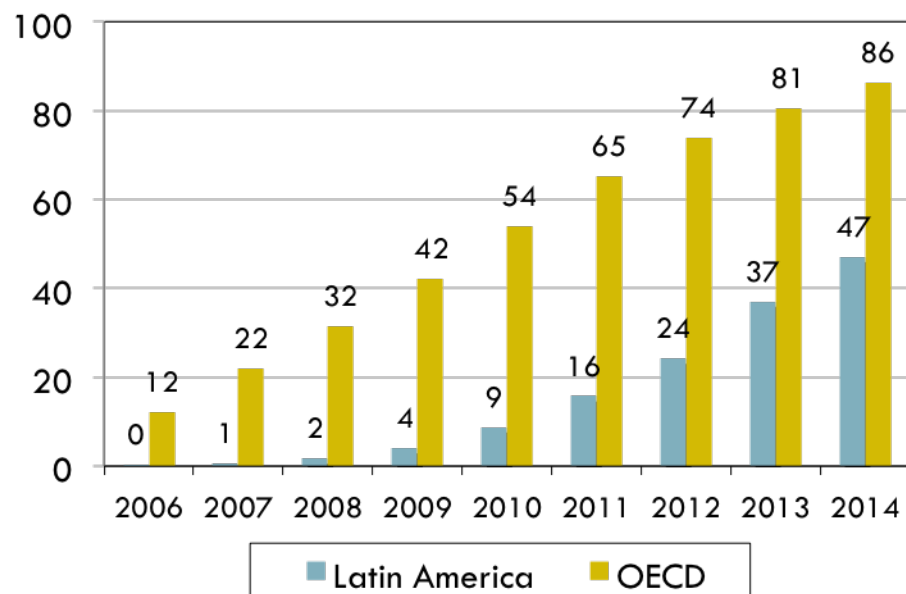
THE GAP WITH OECD COUNTRIES IN INTERNET AND MOBILE BROADBAND ADOPTION IS NARROWING DOWN

EVOLUTION OF INTERNET ADOPTION (2006-2014)



Note: OECD data excludes Chile and Mexico
Source: ECLAC, with data from ITU World
Telecommunications Indicators Database, 2015

EVOLUTION OF MOBILE BROADBAND ADOPTION (2006-2014)



Note: OECD data excludes Chile and Mexico
Source: GSMA Intelligence

THE LATIN AMERICAN INTERNET USER IS CONNECTED TO THE INTERNET MORE TIME THAN USERS OF OTHER EMERGING REGIONS

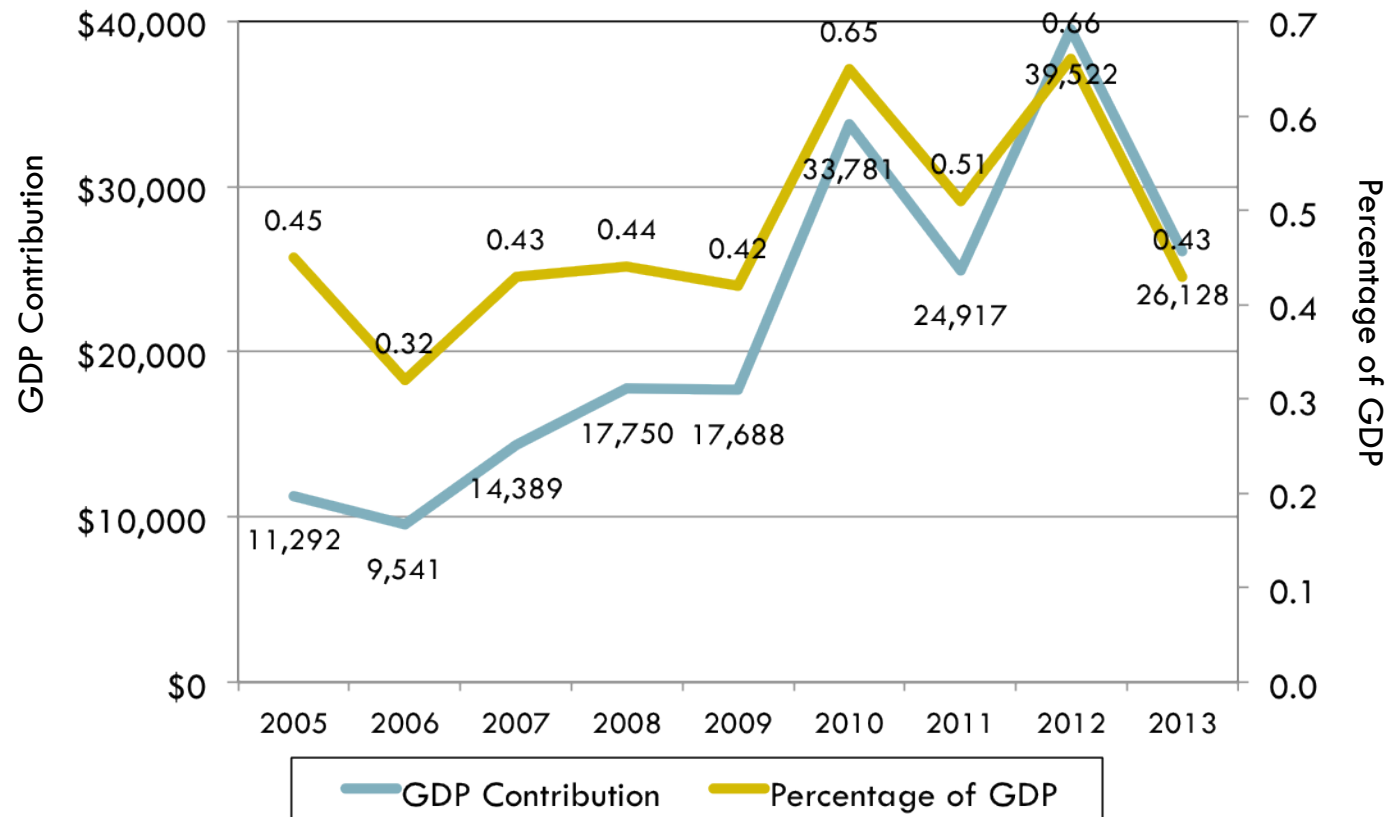
INTENSITY OF INTERNET ACCESS (AVERAGE MONTHLY HOURS) (2013)

North America	35,9		Uruguay	32,6
Europe	25,1		Brazil	29,4
World	22,8		Argentina	20,8
Latin America	21,7		Peru	18,9
Asia - Pacific	17,6		Chile	17,6
Middle East and Africa	13,7		Venezuela	16,1
			Colombia	15,2
			Mexico	14,8

Sources: Comscore; Telecom Advisory Services analysis

THE GROWTH IN LATIN AMERICAN DIGITIZATION HAS CONTRIBUTED TO 4.30% OF ACUMMULATED GDP BETWEEN 2005 AND 2013

ECONOMIC IMPACT OF DIGITIZATION (2005-13)

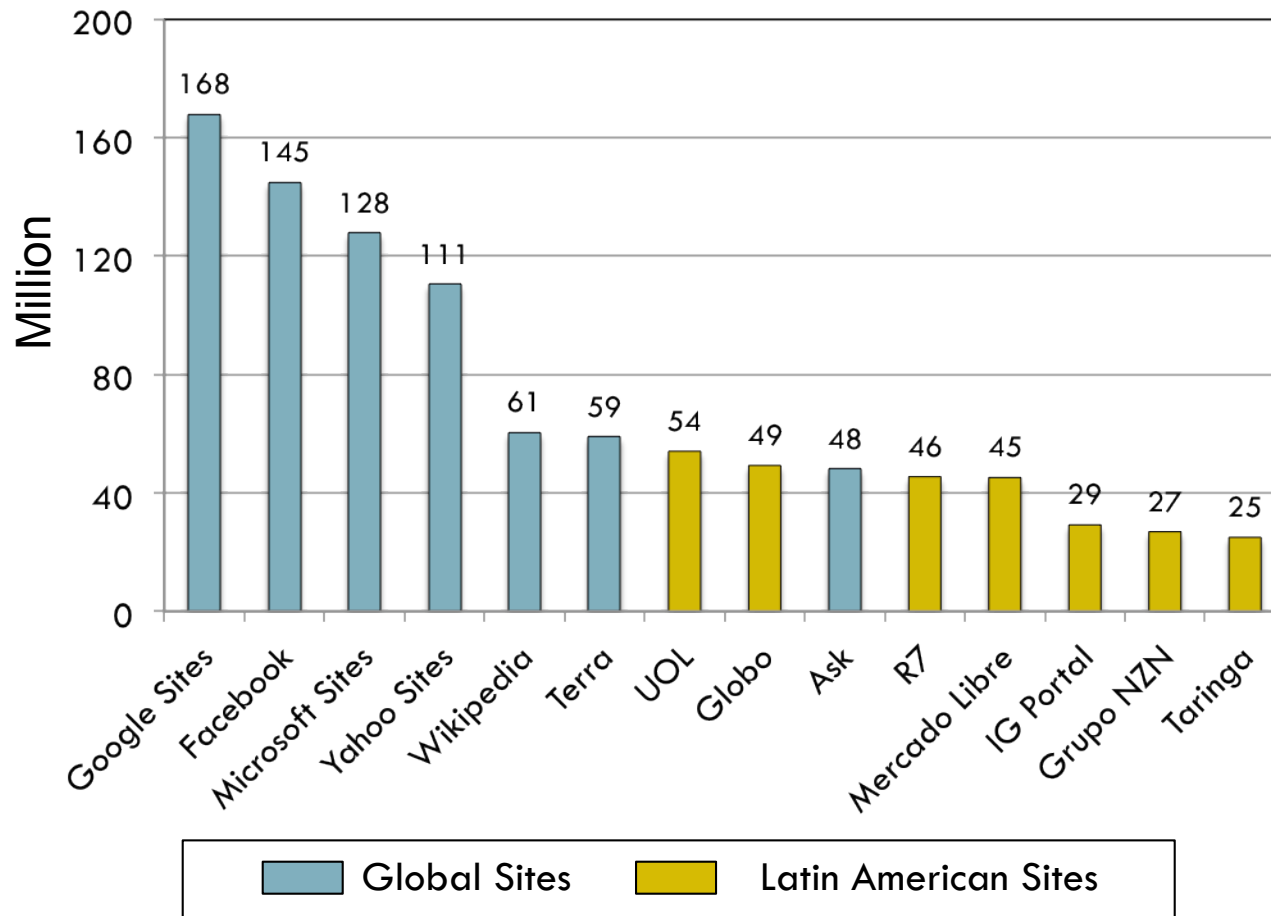


Note: includes Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Dominican Republic, Trinidad & Tobago, Uruguay, and Venezuela

Source: Telecom Advisory Services analysis

ON THE OTHER HAND, LATIN AMERICAN INTERNET USAGE IS PRIMARILY CONCENTRATED ON ACCESSING GLOBAL PLATFORMS

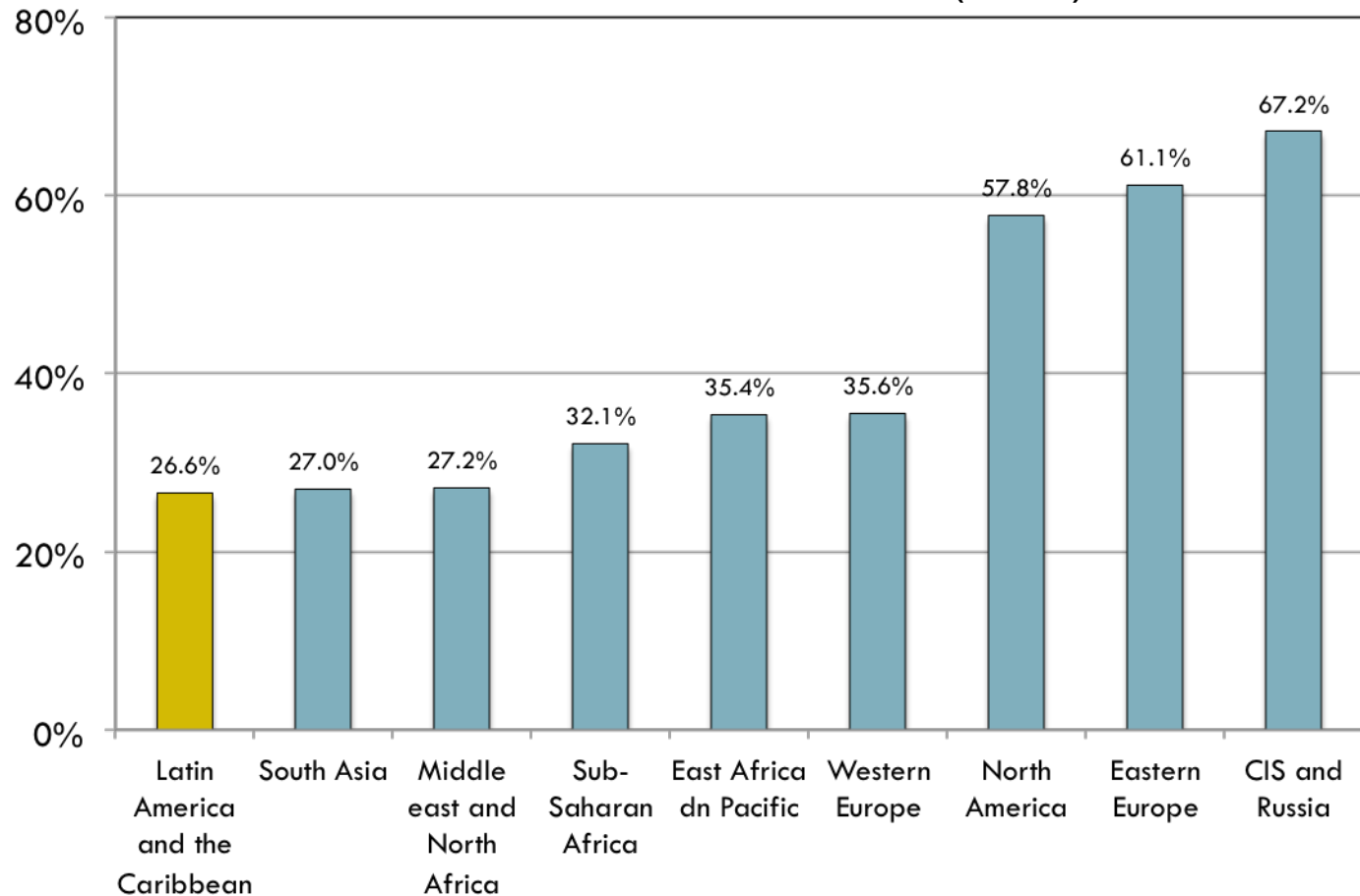
LATIN AMERICA: MOST POPULAR INTERNET SITES
(measured by unique monthly visitors) (2014)



Source: Comscore; Telecom Advisory Services analysis

THIS IS A CONFIRMATION OF THE LIMITATIONS OF LATIN AMERICA WITH REGARDS TO THE PRODUCTION OF LOCAL INTERNET CONTENT AND APPLICATIONS

PERCENTAGE OF LOCAL SITES AMONG THE MOST ACCESSED INTERNET SITES BY REGION (2013)



Note: a local site is considered to be one that has been developed within the region

Source: Katz y Callorda (2014)

WHILE INTERNET USE IN LATIN AMERICA RESSEMBLES THAT OF THE INDUSTRIALIZED WORLD, SEVERAL CHALLENGES FOR LOCAL DIGITIZATION DEVELOPMENT REMAIN

PROGRESS

- Significant progress in the adoption of ICT (126 % mobile telephony; 52% Internet; 24% mobile broadband; 48% social networks; 42% PCs households; 41% fixed broadband households; 57% pay-tv households)
- Digital consumption behavior is similar to that of industrialized countries (hours connected; 78% social network adoption among Internet users)

REMAINING CHALLENGES

- Advanced digitization countries (Argentina, Chile, Colombia, Costa Rica, Panama and Uruguay) are progressing at a faster pace than the rest of Latin America, emphasizing regional duality
- Internet adoption in urban (58%) vs. rural (21%) settings
- Affordability barriers at the base of the pyramid
- Most popular Internet sites developed outside the region
- 26% of most popular sites developed locally (the lowest percentage among regions)

THE LATIN AMERICAN DIGITAL ECO-SYSTEM COMBINES DOMINANT GLOBAL SOCIAL NETWORKS AND SEARCH PLATFORMS WITH LOCAL ELECTRONIC COMMERCE AND ONLINE VIDEO PRESENCE

GLOBAL SUPPLY

- Nine of the ten most important social networks accessed in Latin America are global
- Global search engines (Google, Bing, Yahoo) control 98% of the Latin American market

LOCAL AND REGIONAL SUPPLY

- While global online video sites (e.g. YouTube) have a dominant presence in the region, local market presence remains important
- The video streaming market is divided between global (e.g. Netflix) and local players
- Latin American electronic commerce platforms have a dominant share of visits and transaction volumes

THE LIMITED DEVELOPMENT OF A LATIN AMERICAN DIGITAL SECTOR IS DUE TO STRUCTURAL ECONOMIC FACTORS AND COORDINATION FAILURES AT THE LOCAL LEVEL

COMPARATIVE ADVANTAGE OF GLOBAL PLATFORMS

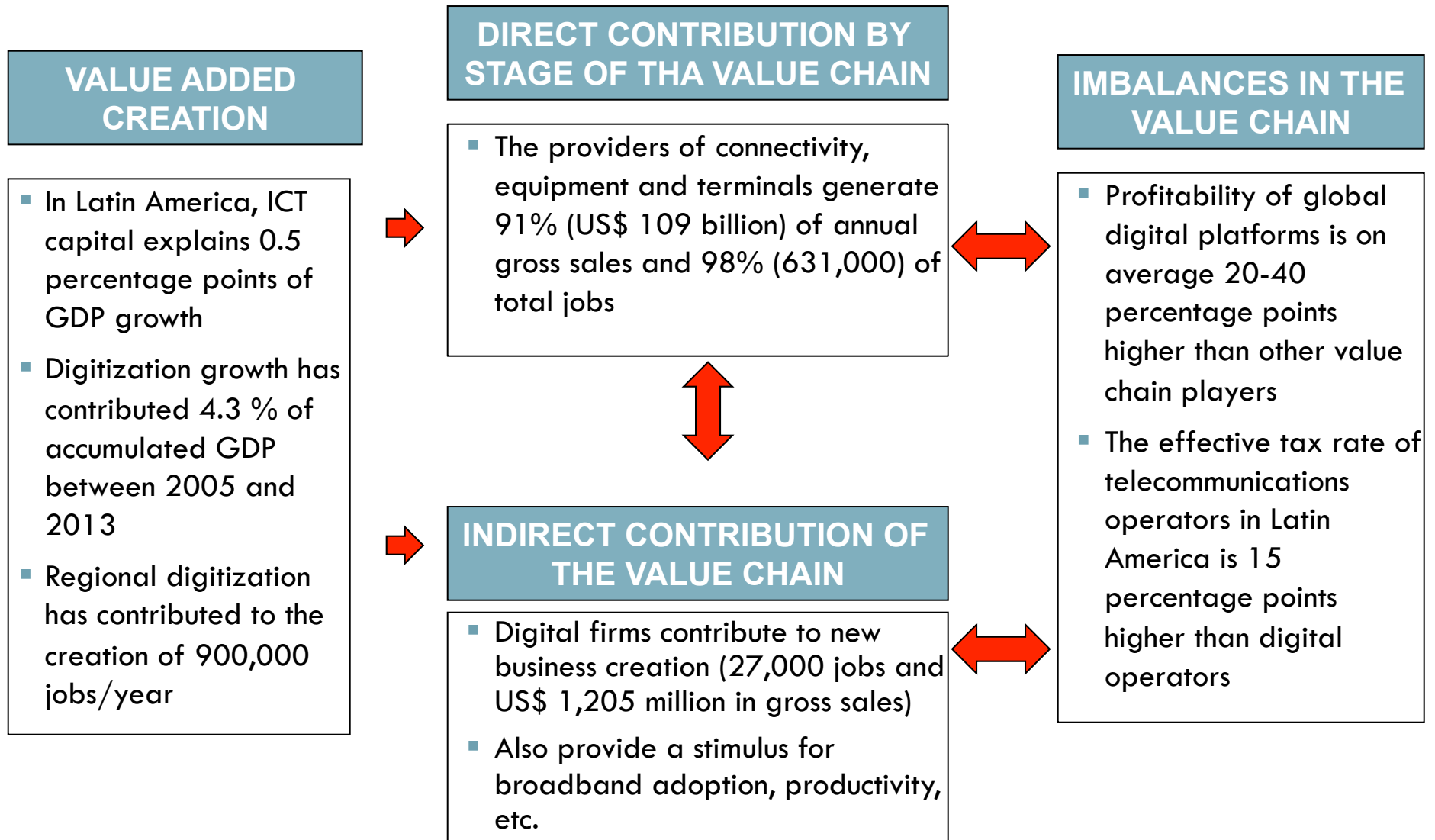
- Direct and indirect network effects reinforce the dominant position of global platforms in search and social networks
- Economies of scale in R&D allow global platforms to maintain an innovation leadership

COORDINATION FAILURES

- Inefficiencies in the distribution of public funds
- Lack of alignment between development plans and digital R&D investment
- Barriers for stimulating venture capital investment
- Limited production of human capital

Future development of digital industries could be also affected by structural imbalances in the value chain

**WHILE THE DIGITAL ECO-SYSTEM HAS A SIGNIFICANT AGGREGATE ECONOMIC CONTRIBUTION,
ITS INTERNAL DYNAMICS ARE AFFECTED BY STRUCTURAL IMBALANCES**



THIS SITUATION RAISES THE NEED TO IMPLEMENT PUBLIC POLICIES AND INITIATIVES AIMED AT DEVELOPING A LATIN AMERICAN DIGITAL INDUSTRY

- Latin America is progressing very slowly in the construction of a domestic digital industry
- The structural imbalance in the current value chain might contain potential barriers to the development of a local digital industry
- Low profitability rates in the transport stage could negatively influence capital spending in the development of access infrastructure
- Different tax regimes for firms participating in the eco-system could entail distortions that can ultimately affect consumer welfare

THE DEVELOPMENT OF A LATIN AMERICAN DIGITAL ECOSYSTEM REQUIRES IMPLEMENTING A NEW SET OF PUBLIC POLICIES

- Implement new practices in publicly-sponsored innovation for new business development (focus on few efforts, align with development objectives, rely on civil society inputs)
- Tackle the inefficiencies in private innovation (promote innovation in large enterprises, improve start-up selection and mentorship)
- Address the coordination failures in public spending (focus on scaling up projects, avoid redundancies)
- Generate necessary stimuli to increase private venture capital funding (IP protection, capital markets development, international accounting standards)
- Address structural imbalances in the digital value chain (asymmetric taxation rules)
- Promote investment of development banks (pooled financing procedures)
- Tackle the human capital gap (two-track talent development)
- Develop an integrated industrial policy for development of digital industries
- Address the fragmentation of institutions in charge of managing public policies in the digital domain

The risk of not implementing these changes is that Latin America will continue to be a mere consumer of content, applications and services developed beyond its frontiers, with a limited capacity of adding value to production processes

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