

# DIGITAL TRANSFORMATION IN PERU

The advancement of a country depends, to a large extent, on its level of digitization and the time it takes to adapt to technological changes. However, in order to achieve national digitization effectively, it is necessary for all the actors that make up a society to intervene: citizens, companies and, above all, those led by the State<sup>1</sup>.

In Peru, the use of digital tools has increased. According to the National Institute of Statistics and Information (INEI)<sup>2</sup>, in the first quarter of 2020, 94.9% of Peruvian families claimed to have access to a technological communication device. Even though most homes have a technological device for communication at home, few Peruvians still dare to interact with the authorities or public entities through digital tools on health issues<sup>3</sup>.

In order to promote a digital transformation in the country, the Government has already implemented various measures in different areas.

## 1. DIGITAL HEALTH

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In Peru, the process of change towards digital health has begun. At the regulatory level, we can mention the following:

- DU 006-2020 was issued, which creates the National Digital Transformation System (SNTD)<sup>4</sup>
- DU 007-2020, which approves the digital trust framework and has measures to strengthen it<sup>5</sup>

Both emergency decrees (decretos de urgencia) seek to promote the use of these technologies in public entities, private companies and citizens; financial and digital access and inclusion; digital, physical, technical and organizational security for the confidentiality of information; and the ethical management of technologies<sup>6</sup>.

Besides these regulations, we can mention:

- Law N° 30024, which creates the National Registry of Electronic Medical Records<sup>7</sup>
- Law N° 30421, Framework Law on Telehealth<sup>8</sup>

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<sup>1</sup> Information extracted from ESAN, <https://www.esan.edu.pe/apuntes-empresariales/2020/08/el-estado-como-maximo-impulsor-de-la-transformacion-digital-en-el-sector-salud-en-peru/>

<sup>2</sup> Information extracted from INEI, <http://m.inei.gob.pe/prensa/noticias/el-401-de-los-hogares-del-pais-tuvo-acceso-a-internet-en-el-primer-trimestre-del-2020-12272/>

<sup>3</sup> Information extracted from Gestion, <https://gestion.pe/blog/evidencia-para-la-gestion/2020/02/la-transformacion-digital-puede-salvar-vidas.html/>

<sup>4</sup> Information extracted from El Peruano, <https://busquedas.elperuano.pe/normaslegales/decreto-de-urgencia-que-crea-el-sistema-nacional-de-transfor-decreto-de-urgencia-n-006-2020-1844001-1/>

<sup>5</sup> Information extracted from El Peruano, <https://busquedas.elperuano.pe/normaslegales/decreto-de-urgencia-que-aprueba-el-marco-de-confianza-digita-decreto-de-urgencia-n-007-2020-1844001-2/>

<sup>6</sup> Information extracted from Gestion, <https://gestion.pe/blog/evidencia-para-la-gestion/2020/02/la-transformacion-digital-puede-salvar-vidas.html/>

<sup>7</sup> Information extracted from El Peruano, <https://busquedas.elperuano.pe/normaslegales/aprueba-el-reglamento-de-la-ley-n-30024-ley-que-crea-el-re-decreto-supremo-n-039-2015-sa-1324291-4/>

<sup>8</sup> Information extracted from El Peruano, <https://busquedas.elperuano.pe/normaslegales/ley-marco-de-telesalud-ley-n-30421-1363168-1/>

The Ministry of Health and EsSalud are beginning to use computer tools to digitize medical records. In addition, telemedicine services are being implemented to benefit, above all, patients living in areas with difficult access. EsSalud's Intelligence and Data Analysis Unit (UIAD) is an innovative experience for the Peruvian State, as it uses metadata and business intelligence tools to exploit large volumes of data, automate the generation of performance indicators and obtain a dashboard that facilitates decision-making for the benefit of the insured. For example, it makes it possible to identify the unmet demand for medicines, which facilitates the inventory management of the logistics operator and the efficient delivery of medicines for citizens. To do this, it uses as input a database hosted in the cloud that contains current information on medical prescriptions and dispensing of prescriptions from EsSalud pharmacies. In some private clinics, digital technology has been implemented through chatbots. These "robots" are computer programs with which the user talks to request information or request specific actions such as buying via delivery through mobile applications, personalized medicine, among others<sup>9</sup>.

## 2. ED TECH

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After the declaration of the state of emergency due to COVID-19, educational centers throughout the country have found it necessary to implement tools to provide their services digitally. Remote education, however, represents a significant challenge in Peru, where a large number of citizens do not have access to the Internet<sup>10</sup>.

Among the main challenges digital education faces, access to the Internet continues to represent the biggest obstacle to ensuring digital education in Peru. For Mr. Hugo Ñopo, Grade's principal investigator, although young people have the most access to Internet, in many cases it occurs outside the home (in the study center, at work or in internet booths). It should also be noted that internet access to Information and Communication Technologies (ICT) is strongly related to socioeconomic levels. According to Ms. Marilú Martens, director of CARE Peru and former Minister of Education, internet access in class A homes is 96.7%, but in class E it only reaches 43%.

Taken into account these barriers, the Government has implemented some initiatives such as the launch of a distance-learning program and the distribution of tablets for public school students and teachers.

- In April 2020, the Government, launched the distance-learning program Aprendo en Casa<sup>11</sup>, aimed at ensuring the educational process throughout the country amid the coronavirus health emergency. The educational programs -prepared by the Ministry of Education- is broadcasted by TV and radio stations. Likewise, through the website <https://aprendoencasa.pe/#/>, students can access to digital and pedagogical resources, libraries and many applications so that they can carry their studies online without problems<sup>12</sup>.
- In the aim of generating equal learning opportunities, the Ministry of Education has developed applications in native languages such as Colena, Mamaru and Castellaneando<sup>13</sup>.

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<sup>9</sup> Information extracted from Gestion, <https://gestion.pe/blog/evidencia-para-la-gestion/2020/02/la-transformacion-digital-puede-salvar-vidas.html/>

<sup>10</sup> Information extracted from El Comercio, <https://elcomercio.pe/peru/retos-de-la-educacion-digital-en-el-peru-noticia/>

<sup>11</sup> Information extracted from Andina, <https://andina.pe/ingles/noticia-peru-pm-highlights-start-of-school-year-via-distance-learning-791806.aspx>

<sup>12</sup> Information extracted from El Comercio, <https://elcomercio.pe/respuestas/cuales-son-los-horarios-de-aprendo-en-casa-cursos-y-horarios-del-15-al-19-de-junio-aprende-en-casa-via-tv-peru-clases-virtuales-coronavirus-radio-revlti-noticia/>

<sup>13</sup> Information extracted from the Peruvian Government, <https://www.gob.pe/institucion/minedu/noticias/295860-en-octubre-se-iniciara-distribucion-de-tablets-a-estudiantes-y-docentes>

- According to Mr. Ricardo Zapata -Technological Innovation Director at the Ministry of Education (MINEDU)-, as part of a technical-pedagogical proposal and a comprehensive educational solution for the next three years, from October the Ministry of Education (MINEDU) will begin the distribution of 1,056,430 tablets among public school students and teachers nationwide<sup>14</sup>. It is important to mention that these devices will be used by pupils to attend virtual education sessions as schools will remain closed during the current year to prevent COVID-19 contagion.
- Through DU 106-2020<sup>15</sup>, the Ministry of Education (MINEDU) was authorized to purchase telephone plans and internet data in favor of basic education teachers, in order for them to use them during the development of the Aprendo en Casa's lessons.
- Through DU 107-2020, Public universities were authorized to contract internet service for the benefit of students and teachers for virtual classes<sup>16</sup>.
- The Executive Power announced that 32,715 million PEN will be allocated to the Education sector in the public budget for fiscal year 2021, which means an increase of 4% compared to last year's budget<sup>17</sup>.

### 3. E-GOVERNMENT

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According to the OECD Digital Government studies<sup>18</sup>, since the early 2000s Peru has been gradually laying the foundations for e-government and, subsequently, for the transition to digital government. Since then numerous measures have been adopted by the government, among them we can mention:

- In September 2018 the Executive Power approved the Digital Government Law (DL N ° 1412)<sup>19</sup>, which aims to establish the governance framework of digital government for the proper management of six components: digital identity, digital services, digital architecture, interoperability, digital security and data, as well as the legal regime applicable to the transversal use of digital technologies.
- In December 2029, the Presidency of the Council of Ministers (PCM) presented the design of the "Digital Agenda to the Bicentennial" in which the future processes of the government were established with a view to digital transformation for the year 2021<sup>20</sup>. The Digital Agenda 2021 brings together 21 commitments distributed in 5 aspirations<sup>21</sup>: Perú Íntegro, Perú Competitivo, Perú Cercano, Perú Confiable y Perú Innovador. For further details, please review the following link:

<sup>14</sup> Information extracted from Andina, <https://andina.pe/ingles/noticia-peru-education-ministry-tablets-distribution-to-begin-in-october-811410.aspx>

<sup>15</sup> Information extracted from El Peruano, <https://busquedas.elperuano.pe/normaslegales/decreto-de-urgencia-que-establece-medidas-complementarias-pa-decreto-de-urgencia-n-106-2020-1883788-3/#:~:text=El%20presente%20Decreto%20de%20Urgencia,los%20docentes%20y%20personal%20vinculado>

<sup>16</sup> Information extracted from El Peruano, <https://busquedas.elperuano.pe/normaslegales/decreto-de-urgencia-que-establece-medidas-extraordinarias-pa-decreto-de-urgencia-n-107-2020-1883788-4/>

<sup>17</sup> Information extracted from El Comercio, <https://elcomercio.pe/economia/peru/la-brecha-de-uso-es-uno-de-los-temas-pendientes-en-la-educacion-en-el-peru-segun-expertos-ncze-noticia/?ref=ecr>

<sup>18</sup> Information extracted from the OECD, [https://www.oecd-ilibrary.org/governance/digital-government-in-peru\\_0c1eb85b-en](https://www.oecd-ilibrary.org/governance/digital-government-in-peru_0c1eb85b-en)

<sup>19</sup> Information extracted from El Peruano, <https://busquedas.elperuano.pe/normaslegales/decreto-legislativo-que-aprueba-la-ley-de-gobierno-digital-decreto-legislativo-n-1412-1691026-1/>

<sup>20</sup> Information extracted from Gestion, <https://gestion.pe/economia/gobierno-fija-21-metas-para-que-peruanos-accedan-a-servicios-digitales-peru-transformacion-digital-noticia/>

<sup>21</sup> Information extracted from the Peruvian Government, <https://www.gob.pe/8258-presidencia-del-consejo-de-ministros-agenda-digital-al-bicentenario>

<https://www.gob.pe/institucion/pcm/informes-publicaciones/606643-agenda-digital-al-bicentenario>

- In January 2020 the DU 006-2020<sup>22</sup> was enacted, which creates the National Digital Transformation System
- In January 2020 the DU 007-2020<sup>23</sup> was enacted, which approves the Digital Trust Framework to prevent digital risks.

For further information on regulations enacted by the Government, please review the following link: <https://www.gob.pe/institucion/pcm/colecciones/147-normativa-sobre-gobierno-digital>

As part of the Government's actions to face COVID-19, the Executive Power promulgated the Legislative Decree No. 1497<sup>24</sup>, which establishes, among other provisions, the obligation for public entities to convert their administrative procedures to digital platforms or services. Along with this, the Government announced the prioritization of 100 public services to be digitized<sup>25</sup>.

Based on the Global Innovation Index (GII)<sup>26</sup>, in 2019 Peru rose 16 positions in the Government's online service indicator and kept the same position in the 2020 ranking.

**Global Innovation Index 2020**

INFRASTRUCTURE		39.7	68
<b>3.1</b>	<b>Information &amp; communication technologies (ICTs)...</b>	<b>65.7</b>	<b>70</b>
3.1.1	ICT access*	50.9	89 ◊
3.1.2	ICT use*	43.5	91 ◊
3.1.3	Government's online service*	81.9	41
3.1.4	E-participation*	86.5	36 ●
<b>3.2</b>	<b>General infrastructure</b>	<b>19.1</b>	<b>105</b>
3.2.1	Electricity output, kWh/mn pop.	1,645.0	85
3.2.2	Logistics performance*	29.2	82
3.2.3	Gross capital formation, % GDP	22.1	77
<b>3.3</b>	<b>Ecological sustainability</b>	<b>34.2</b>	<b>50</b>
3.3.1	GDP/unit of energy use	15.6	12 ● ◆
3.3.2	Environmental performance*	44.0	79
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP	1.0	61

Sources of information: WIPO

## 4. RELATED EVENTS

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- VIRTUAL EDUCA 2019  
<https://virtualeduca.org/peru2019/>
- CADE DIGITAL 2020  
<https://www.ipae.pe/cade-digital-2020/>
- PERÚ DIGITAL SUMMIT 2020  
<https://www.linkedin.com/company/peru-digital-summit/>

<sup>22</sup> Information extracted from El Peruano, <https://busquedas.elperuano.pe/normaslegales/decreto-de-urgencia-que-crea-el-sistema-nacional-de-transfor-decreto-de-urgencia-n-006-2020-1844001-1/>

<sup>23</sup> Information extracted from El Peruano, <https://busquedas.elperuano.pe/normaslegales/decreto-de-urgencia-que-aprueba-el-marco-de-confianza-digita-decreto-de-urgencia-n-007-2020-1844001-2/>

<sup>24</sup> Information extracted from El Peruano, <https://busquedas.elperuano.pe/normaslegales/decreto-legislativo-que-establece-medidas-para-promover-y-fa-decreto-legislativo-n-1497-1866211-4/>

<sup>25</sup> Information extracted from El Peruano, <https://elperuano.pe/noticia-ejecutivo-acelera-transformacion-digital-del-estado-para-hacer-frente-al-covid19-95836.aspx>

<sup>26</sup> Information extracted from the Global Innovation Index (GII), [https://www.wipo.int/global\\_innovation\\_index/en/](https://www.wipo.int/global_innovation_index/en/)

## 5. STARTUPS, APPS AND INNOVATION PROJECTS

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- SILABUZ, edtech startup  
<https://silabuz.com/>
- DICTAPICTO, application that allows you to pass a voice or written message to pictograms immediately  
<https://orientatech.net/en/dictapicto-0>  
<http://www.fundacionorange.es/aplicaciones/dictapicto-tea/>
- CHECK EDUCATION, platform that is replacing traditional textbooks in several top private institutions in Perú (such as Innova Schools) and public schools (such as the Colegios de Alto Rendimiento - COAR).  
<https://check.education/>
- PARTICIPA PERU  
<https://www.gob.pe/participa>

For more information, please review the following links:

- StartUp Perú  
<https://www.start-up.pe/>
- Innóvate Perú Program  
<https://www.innovateperu.gob.pe/>

## 6. SOURCES OF INFORMATION

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### EL PERUANO

- <https://busquedas.elperuano.pe/normaslegales/decreto-de-urgencia-que-crea-el-sistema-nacional-de-transfor-decreto-de-urgencia-n-006-2020-1844001-1/>
- <https://busquedas.elperuano.pe/normaslegales/decreto-de-urgencia-que-aprueba-el-marco-de-confianza-digita-decreto-de-urgencia-n-007-2020-1844001-2/>
- <https://busquedas.elperuano.pe/normaslegales/aprueba-el-reglamento-de-la-ley-n-30024-ley-que-crea-el-re-decreto-supremo-n-039-2015-sa-1324291-4/>
- <https://busquedas.elperuano.pe/normaslegales/ley-marco-de-telesalud-ley-n-30421-1363168-1/>
- <https://busquedas.elperuano.pe/normaslegales/decreto-de-urgencia-que-establece-medidas-complementarias-pa-decreto-de-urgencia-n-106-2020-1883788-3/#:~:text=El%20presente%20Decreto%20de%20Urgencia,los%20docentes%20y%20personal%20vinculado>
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- <https://busquedas.elperuano.pe/normaslegales/decreto-legislativo-que-aprueba-la-ley-de-gobierno-digital-decreto-legislativo-n-1412-1691026-1/>
- <https://busquedas.elperuano.pe/normaslegales/decreto-legislativo-que-establece-medidas-para-promover-y-fa-decreto-legislativo-n-1497-1866211-4/>
- <https://elperuano.pe/noticia-ejecutivo-acelera-transformacion-digital-del-estado-para-hacer-frente-al-covid19-95836.aspx>

- <https://busquedas.elperuano.pe/normaslegales/decreto-de-urgencia-que-crea-el-sistema-nacional-de-transfor-decreto-de-urgencia-n-006-2020-1844001-1/>

#### ANDINA

- <https://gestion.pe/blog/evidencia-para-la-gestion/2020/02/la-transformacion-digital-puede-salvar-vidas.html/>
- <https://andina.pe/agencia/noticia-gobierno-crea-sistema-nacional-transformacion-digital-780864.aspx>
- <https://andina.pe/agencia/noticia-peru-creates-national-digital-transformation-system-780907.aspx>
- <https://andina.pe/ingles/noticia-peru-pm-highlights-start-of-school-year-via-distance-learning-791806.aspx>
- <https://andina.pe/ingles/noticia-peru-schools-to-start-distance-learning-plan-on-april-6-790917.aspx>
- <https://andina.pe/agencia/noticia-minedu-gobierno-lanza-educacion-a-distancia-para-escolares-cuarentena-789280.aspx>
- <https://andina.pe/Ingles/noticia-perus-education-ministry-tablets-distribution-to-begin-in-october-811410.aspx>
- <https://andina.pe/agencia/noticia-minedu-contratara-plan-telefonía-y-datos-internet-para-docentes-colegios-publicos-813271.aspx>
- <https://andina.pe/agencia/noticia-coronavirus-lanzan-plataforma-online-gratuita-matematicas-para-alumnos-secundaria-789850.aspx>

#### WIPO - GLOBAL INNOVATION INDEX (GII)

- [https://www.wipo.int/global\\_innovation\\_index/en/](https://www.wipo.int/global_innovation_index/en/)
- [https://www.wipo.int/global\\_innovation\\_index/en/2020/](https://www.wipo.int/global_innovation_index/en/2020/)
- [https://www.wipo.int/global\\_innovation\\_index/en/2019/](https://www.wipo.int/global_innovation_index/en/2019/)
- <https://www.wipo.int/publications/en/details.jsp?id=4330>
- [https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_gii\\_2020.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2020.pdf)
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- [https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_gii\\_2018.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2018.pdf)

#### OECD

- [https://www.oecd-ilibrary.org/governance/digital-government-in-peru\\_0c1eb85b-en](https://www.oecd-ilibrary.org/governance/digital-government-in-peru_0c1eb85b-en)
- [https://read.oecd-ilibrary.org/governance/digital-government-in-peru\\_0c1eb85b-en#page2](https://read.oecd-ilibrary.org/governance/digital-government-in-peru_0c1eb85b-en#page2)

#### OTHERS

- <http://m.inei.gob.pe/prensa/noticias/el-401-de-los-hogares-del-pais-tuvo-acceso-a-internet-en-el-primer-trimestre-del-2020-12272/>
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- <https://elcomercio.pe/lima/sucesos/coronavirus-peru-contrataran-internet-a-estudiantes-y-docentes-de-universidades-publicas-para-que-puedan-conectarse-a-clases-virtuales-minedu-nndc-noticia/?ref=ecr>
- <https://www.tvperu.gob.pe/novedades/tvperu/lanzan-plataforma-online-gratuita-de-matematicas-para-alumnos-de-secundaria>
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- <https://www.gob.pe/institucion/pcm/colecciones/147-normativa-sobre-gobierno-digital>
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