# Pontificia Universidad Católica del Perú Facultad de Ciencias e Ingeniería 



PONTIFICIA
UNIVERSIDAD CATÓLICA DEL PERÚ

## ANEXOS

MEJORA DE LOS INDICADORES DE PRODUCTIVIDAD EN EMPRESAS DE SERVICIOS MYPES, A TRAVÉS DEL MONITOREO Y CONTROL LEAN - SIX SIGMA, USANDO HERRAMIENTAS DE DATA MINING

Tesis para optar el Título de Ingeniera Industrial, que presenta el bachiller

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## ANEXO 1 - Porcentaje de ingreso al día

X1: $0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,0.1,0.2,0$. $3,0.4,0.5,0.6,0.7,0.8,0.9,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,0.1,0.2,0.3,0.4,0.5,0.6$ $, 0.7,0.8,0.9,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,0.1,0.2$, $0.3,0.4,0.5,0.6,0.7,0.8,0.9,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9$
$\mathbf{x} 2: 0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0$. $3,0.3,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.5,0.5,0.5,0.5,0.5,0.5$ $, 0.5,0.5,0.5,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0$
X3: $0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0$, $0,0,0,0,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0$ $.3,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4$
$\mathbf{Y}: 0.050,0.100,0.150,0.200,0.250,0.300,0.350,0.400,0.450,0.040,0.080,0.120,0.160,0.200$ $, 0.240,0.280,0.320,0.360,0.250,0.375,0.500,0.625,0.750,0.875,1.000,1.125,1.250,0.060$, $0.120,0.180,0.240,0.300,0.360,0.420,0.480,0.540,0.025,0.050,0.075,0.100,0.125,0.150,0$ $.175,0.200,0.225,0.150,0.300,0.450,0.600,0.750,0.900,1.000,0.005,0.010,0.015,0.020,0$. $025,0.030,0.035,0.040,0.045,0.055,0.110,0.165,0.220,0.275,0.330,0.385,0.440,0.495,0.0$ $45,0.090,0.135,0.180,0.225,0.270,0.315,0.360,0.405$

## ANEXO 2 - Porcentaje de equipos alquilados

$\mathbf{x 1}=0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,0,0,0,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,0,0$, $0,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,0,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,0,0,0,0.1$ $, 0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,0,0,0,0,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4$, $0.5,0.6,0.7,0.8,0.9,0,0,0,0,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,0,0,0.1,0.2,0.3,0.4,0$ $.5,0.6,0.7,0.8,0.9$
$\mathbf{X 2} 2=0,0,0,0,0,0,0,0,0,0.1,0.2,0.3,0,0,0,0,0,0,0,0,0,0.1,0.2,0.3,0,0,0,0,0,0,0,0,0,0.1$, $0,0,0,0,0,0,0,0,0,0.1,0.2,0.3,0,0,0,0,0,0,0,0,0,0.1,0.2,0.3,0.4,0,0,0,0,0,0,0,0,0,0,0$ $, 0,0,0,0,0,0.1,0.2,0.3,0.4,0,0,0,0,0,0,0,0,0,0.1,0.2,0,0,0,0,0,0,0,0,0$
$\mathbf{x} 3: 0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0$. $2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4$ $, 0.4,0.4,0.4,0.4,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0,0,0,0,0,0,0,0$, $0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0$
X4: 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, $0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0$ $.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0$. $4,0.4,0.4,0.4,0.4,0.4,0.4$
$\mathbf{Y}: 0.08,0.17,0.25,0.33,0.42,0.50,0.58,0.67,0.75,0.83,0.92,1.00,0.08,0.17,0.25,0.33,0.4$ $2,0.50,0.58,0.67,0.75,0.83,0.92,1.00,0.10,0.20,0.30,0.40,0.50,0.60,0.70,0.80,0.90,1.0$ $0,0.08,0.17,0.25,0.33,0.42,0.50,0.58,0.67,0.75,0.83,0.92,1.00,0.08,0.15,0.23,0.31,0.3$ $8,0.46,0.54,0.62,0.69,0.77,0.85,0.92,1.00,0.14,0.29,0.43,0.57,0.71,0.86,1.00,0.08,0.1$ $5,0.23,0.31,0.38,0.46,0.54,0.62,0.69,0.77,0.85,0.92,1.00,0.09,0.18,0.27,0.36,0.45,0.5$ $5,0.64,0.73,0.82,0.91,1.00,0.11,0.22,0.33,0.44,0.56,0.67,0.78,0.89,1.00$

## ANEXO 3 - Porcentaje de equipos rechazados

$\mathbf{x 1}: 0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0$. $7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7$ $, 0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7$ $\mathbf{x} 2: 0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0$. $3,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0,0,0,0,0,0,0,0,0,0,0,0,0,0$ $, 0,0,0,0,0,0,0,0,0,0,0,0,0,0$
X3: $0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0.1,0.1,0.1$, $0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0$ .4,0.4,0.4,0.4
$\mathbf{Y}: 0.92,0.83,0.75,0.67,0.58,0.50,0.42,0.92,0.83,0.75,0.67,0.58,0.50,0.42,0.90,0.80,0.7$ $0,0.60,0.50,0.40,0.30,0.92,0.83,0.75,0.67,0.58,0.50,0.42,0.92,0.85,0.77,0.69,0.62,0.5$ $4,0.46,0.86,0.71,0.57,0.43,0.29,0.14,0.00,0.92,0.85,0.77,0.69,0.62,0.54,0.46,0.91,0.8$ $2,0.73,0.64,0.55,0.45,0.36,0.89,0.78,0.67,0.56,0.44,0.33,0.22$

## ANEXO 4 - Porcentaje de mora de clientes

## Indicador 4:

$\mathrm{x} 1: 0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0$ $7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7$ $, 0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7$, $0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0$ $.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0$. $1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1$ $, 0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7$
$\mathbf{x} 2: 0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0$. $3,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.6,0.6,0.6,0.6,0.6,0.6,0.6$ $, 0.7,0.7,0.7,0.7,0.7,0.7,0.7,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0.2$, $0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0$ $.6,0.6,0.6,0.6,0.6,0.6,0.6,0.7,0.7,0.7,0.7,0.7,0.7,0.7,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0$. $2,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.5$ $, 0.5,0.5,0.5,0.5,0.5,0.5,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.7,0.7,0.7,0.7,0.7,0.7,0.7$
$\mathbf{x} 3: 0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0$. $1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1$ $, 0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2$, $0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0$ $.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0$. $3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3$ $, 0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3$
$\mathbf{Y}: 0.99,0.98,0.96,0.95,0.94,0.93,0.92,0.98,0.95,0.93,0.9,0.88,0.86,0.83,0.96,0.93,0.89$ $, 0.86,0.82,0.79,0.75,0.95,0.9,0.86,0.81,0.76,0.71,0.67,0.94,0.88,0.82,0.76,0.7,0.64,0$ $.58,0.93,0.86,0.79,0.71,0.64,0.57,0.5,0.92,0.83,0.75,0.67,0.58,0.5,0.42,0.99,0.98,0.9$ $6,0.95,0.94,0.93,0.92,0.98,0.95,0.93,0.9,0.88,0.86,0.83,0.96,0.93,0.89,0.86,0.82,0.79$ $, 0.75,0.95,0.9,0.86,0.81,0.76,0.71,0.67,0.94,0.88,0.82,0.76,0.7,0.64,0.58,0.93,0.86,0$ $.79,0.71,0.64,0.57,0.5,0.92,0.83,0.75,0.67,0.58,0.5,0.42,0.99,0.97,0.96,0.94,0.93,0.9$ $1,0.9,0.97,0.94,0.91,0.89,0.86,0.83,0.8,0.96,0.91,0.87,0.83,0.79,0.74,0.7,0.94,0.89,0$ $.83,0.77,0.71,0.66,0.6,0.93,0.86,0.79,0.71,0.64,0.57,0.5,0.91,0.83,0.74,0.66,0.57,0.4$ $9,0.4,0.9,0.8,0.7,0.6,0.5,0.4,0.3$

## Indicador 5:

$\mathbf{x 1}=0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0$. $7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7$ $, 0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7$, $0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0$ $.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0$. $1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1$ $, 0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1$, $0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0$ $.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0$. $2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2$ $, 0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2$, $0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0$ $.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0$. $3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.1,0.2,0.3,0.4,0.5,0.6,0.7$
$\mathbf{x 2}: 0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0$. $3,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.6,0.6,0.6,0.6,0.6,0.6,0.6$ $, 0.7,0.7,0.7,0.7,0.7,0.7,0.7,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0.2$, $0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0$ $.6,0.6,0.6,0.6,0.6,0.6,0.6,0.7,0.7,0.7,0.7,0.7,0.7,0.7,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0$. $2,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.5$ $, 0.5,0.5,0.5,0.5,0.5,0.5,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.7,0.7,0.7,0.7,0.7,0.7,0.7,0.1$, $0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.4,0$ $.4,0.4,0.4,0.4,0.4,0.4,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.7,0$ $7,0.7,0.7,0.7,0.7,0.7,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3$ $, 0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.6,0.6$, $0.6,0.6,0.6,0.6,0.6,0.7,0.7,0.7,0.7,0.7,0.7,0.7,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0$ $.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.5,0.5,0$. $5,0.5,0.5,0.5,0.5,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.7,0.7,0.7,0.7,0.7,0.7,0.7$
X3: $0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0$. $4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4$ $, 0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5$, $0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0$ $.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0$. $6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6$ $, 0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0,0$,
$0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0$ $, 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0$, $0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0$ $, 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0$
X4: $0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0$, $0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0$ $, 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0$, $0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1$ $, 0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1$, $0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0$ $.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0$. $2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2$ $, 0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3$, $0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0$ $.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3$
$\mathbf{Y}: 0.99,0.98,0.96,0.95,0.94,0.93,0.92,0.98,0.95,0.93,0.90,0.88,0.86,0.83,0.96,0.93,0.8$ $9,0.86,0.82,0.79,0.75,0.95,0.90,0.86,0.81,0.76,0.71,0.67,0.94,0.88,0.82,0.76,0.70,0.6$ $4,0.58,0.93,0.86,0.79,0.71,0.64,0.57,0.50,0.92,0.83,0.75,0.67,0.58,0.50,0.42,0.99,0.9$ $8,0.97,0.96,0.95,0.93,0.92,0.98,0.96,0.93,0.91,0.89,0.87,0.85,0.97,0.93,0.90,0.87,0.8$ $4,0.80,0.77,0.96,0.91,0.87,0.82,0.78,0.74,0.69,0.95,0.89,0.84,0.78,0.73,0.67,0.62,0.9$ $3,0.87,0.80,0.74,0.67,0.60,0.54,0.92,0.85,0.77,0.69,0.62,0.54,0.46,0.98,0.96,0.94,0.9$ $2,0.90,0.88,0.86,0.96,0.92,0.88,0.84,0.80,0.76,0.71,0.94,0.88,0.82,0.76,0.69,0.63,0.5$ $7,0.92,0.84,0.76,0.67,0.59,0.51,0.43,0.90,0.80,0.69,0.59,0.49,0.39,0.29,0.88,0.76,0.6$ $3,0.51,0.39,0.27,0.14,0.86,0.71,0.57,0.43,0.29,0.14,0.00,0.99,0.98,0.97,0.96,0.95,0.9$ $3,0.92,0.98,0.96,0.93,0.91,0.89,0.87,0.85,0.97,0.93,0.90,0.87,0.84,0.80,0.77,0.96,0.9$ $1,0.87,0.82,0.78,0.74,0.69,0.95,0.89,0.84,0.78,0.73,0.67,0.62,0.93,0.87,0.80,0.74,0.6$ $7,0.60,0.54,0.92,0.85,0.77,0.69,0.62,0.54,0.46,0.99,0.97,0.96,0.95,0.94,0.92,0.91,0.9$ $7,0.95,0.92,0.90,0.87,0.84,0.82,0.96,0.92,0.88,0.84,0.81,0.77,0.73,0.95,0.90,0.84,0.7$ $9,0.74,0.69,0.64,0.94,0.87,0.81,0.74,0.68,0.61,0.55,0.92,0.84,0.77,0.69,0.61,0.53,0.4$ $5,0.91,0.82,0.73,0.64,0.55,0.45,0.36,0.98,0.97,0.95,0.94,0.92,0.90,0.89,0.97,0.94,0.9$ $0,0.87,0.84,0.81,0.78,0.95,0.90,0.86,0.81,0.76,0.71,0.67,0.94,0.87,0.81,0.75,0.68,0.6$ $2,0.56,0.92,0.84,0.76,0.68,0.60,0.52,0.44,0.90,0.81,0.71,0.62,0.52,0.43,0.33,0.89,0.7$ $8,0.67,0.56,0.44,0.33,0.22$

## ANEXO 5 - Calidad de la comida

## x1

$0,0,0,0,0,0,0,0,0,0,0,0,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,1,1,1,1,1,1,1$ ,1,1,1,1,1

## x2

$0,0,0,0,0.5,0.5,0.5,0.5,1,1,1,1,0,0,0,0,0.5,0.5,0.5,0.5,1,1,1,1,0,0,0,0,0.5,0.5,0.5,0$ 5,1,1,1,1
x3: $0,0,1,1,0,0,1,1,0,0,1,1,0,0,1,1,0,0,1,1,0,0,1,1,0,0,1,1,0,0,1,1,0,0,1,1$
X4: $0,1,0,1,0,1,0,1,0,1,0,1,0,1,0,1,0,1,0,1,0,1,0,1,0,1,0,1,0,1,0,1,0,1,0,1$
$\mathbf{Y}: 0,0.5,0.1,0.6,0.1,0.6,0.2,0.7,0.2,0.7,0.3,0.8,0.1,0.6,0.2,0.7,0.2,0.7,0.3,0.8,0.3,0$ $.8,0.4,0.9,0.2,0.7,0.3,0.8,0.3,0.8,0.4,0.9,0.4,0.9,0.5,1$

## ANEXO 6 - Ventas diarias

x1:0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0. $1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2$ , 0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2, $0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0$ $.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0$. $3,0.3,0.3,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4$ , 0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.5,0.5,0.5,0.5, $0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0$ $.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0$. $6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6$ , 0.6,0.6,0.6,0.6
x2:0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0 $4,0.4,0.4,0.4,0.5,0.5,0.5,0.5,0.5,0.5,0.6,0.6,0.6,0.6,0.6,0.6,0.1,0.1,0.1,0.1,0.1,0.1$ , 0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0.4,0.4,0.4,0.5,0.5,0.5, $0.5,0.5,0.5,0.6,0.6,0.6,0.6,0.6,0.6,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0$ . 3, 0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0.4,0.4,0.4,0.5,0.5,0.5,0.5,0.5,0.5,0.6,0.6,0.6,0 $6,0.6,0.6,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0.4$ , 0.4,0.4,0.4,0.4,0.4,0.5,0.5,0.5,0.5,0.5,0.5,0.6,0.6,0.6,0.6,0.6,0.6,0.1,0.1,0.1,0.1, $0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0.4,0.4,0.4,0.5,0$
$.5,0.5,0.5,0.5,0.5,0.6,0.6,0.6,0.6,0.6,0.6,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0$. $2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0.4,0.4,0.4,0.5,0.5,0.5,0.5,0.5,0.5,0.6,0.6$ ,0.6,0.6,0.6,0.6
x3: 0.1, 0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0. $3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6$ , 0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3, $0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0$ $.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0$. $4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1$ , 0.2,0.3, 0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4, $0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0$ $.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0$. $5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2$ ,0.3,0.4,0.5,0.6
$\mathbf{Y}: 0.14,0.23,0.32,0.42,0.51,0.60,0.22,0.31,0.40,0.49,0.58,0.67,0.29,0.38,0.47,0.57,0.6$ $6,0.75,0.37,0.46,0.55,0.64,0.73,0.82,0.44,0.53,0.62,0.72,0.81,0.90,0.52,0.61,0.70,0.7$ $9,0.88,0.97,0.21,0.30,0.39,0.48,0.57,0.67,0.28,0.37,0.47,0.56,0.65,0.74,0.36,0.45,0.5$ $4,0.63,0.72,0.82,0.43,0.52,0.62,0.71,0.80,0.89,0.51,0.60,0.69,0.78,0.87,0.97,0.58,0.6$ $7,0.77,0.86,0.95,1.00,0.27,0.37,0.46,0.55,0.64,0.73,0.35,0.44,0.53,0.62,0.72,0.81,0.4$ $2,0.52,0.61,0.70,0.79,0.88,0.50,0.59,0.68,0.77,0.87,0.96,0.57,0.67,0.76,0.85,0.94,1.0$ $0,0.65,0.74,0.83,0.92,1.00,1.00,0.34,0.43,0.52,0.62,0.71,0.80,0.42,0.51,0.60,0.69,0.7$ $8,0.87,0.49,0.58,0.67,0.77,0.86,0.95,0.57,0.66,0.75,0.84,0.93,1.00,0.64,0.73,0.82,0.9$ $2,1.00,1.00,0.72,0.81,0.90,0.99,1.00,1.00,0.41,0.50,0.59,0.68,0.77,0.87,0.48,0.57,0.6$ $7,0.76,0.85,0.94,0.56,0.65,0.74,0.83,0.92,1.00,0.63,0.72,0.82,0.91,1.00,1.00,0.71,0.8$ $0,0.89,0.98,1.00,1.00,0.78,0.87,0.97,1.00,1.00,1.00,0.47,0.57,0.66,0.75,0.84,0.93,0.5$ $5,0.64,0.73,0.82,0.92,1.00,0.62,0.72,0.81,0.90,0.99,1.00,0.70,0.79,0.88,0.97,1.00,1.0$ $0,0.77,0.87,0.96,1.00,1.00,1.00,0.85,0.94,1.00,1.00,1.00,1.00$

## ANEXO 7 - Stock de repuestos

$\mathrm{x} 1: 0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0$. $1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1$ , 0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1, $0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0$ $.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0$ $2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2$ $, 0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2$, $0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0$ $.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0$. $2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3$ $, 0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3$, $0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0$ $.3,0.3,0.3,0.3,0.3,0.3$
x2:0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0. $3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.5,0.5$ , 0.5,0.5, 0.5, 0.5,0.5,0.5,0.5,0.5,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,1,1,1,1,1,1, $1,1,1,1,1,1,1,1,1,1,1,1,1,1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0$ $.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0.4,0.4,0$. $4,0.4,0.4,0.4,0.4,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.6,0.6,0.6,0.6,0.6,0.6,0.6$ , $0.6,0.6,0.6,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1$, $1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0$ $.1,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0$. $4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.6,0.6$ ,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6
x3:1, $1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1$, $1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2$ $, 0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1$, $1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0.1,0.1,0.1,0.1,0$ $.1,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0$. $3,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.5,0.5,0.5,0.5,0.5,0.5$ $, 0.5,0.5,0.5,0.5,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,0.6,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1$, $1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1$

X4:0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,1,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,1,0.1,0. $2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,1,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,1,0.1,0.2,0.3,0.4$ , 0.5,0.6,0.7,0.8,0.9,1,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,1,0.1,0.2,0.3,0.4,0.5,0.6, $0.7,0.8,0.9,1,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,1,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0$ $.9,1,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,1,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,1,0.1$, $0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,1,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,1,0.1,0.2,0.3,0$ $.4,0.5,0.6,0.7,0.8,0.9,1,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,1,0.1,0.2,0.3,0.4,0.5,0$.
$6,0.7,0.8,0.9,1,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,1,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8$ $, 0.9,1,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,1,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,1,0$ $1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,1,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,1,0.1,0.2,0.3$ $, 0.4,0.5,0.6,0.7,0.8,0.9,1,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,1,0.1,0.2,0.3,0.4,0.5$, $0.6,0.7,0.8,0.9,1,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,1$
$\mathbf{Y}: 0.967,0.933,0.900,0.867,0.833,0.800,0.767,0.733,0.700,0.667,0.975,0.950,0.925,0.900$ $, 0.875,0.850,0.825,0.800,0.775,0.750,0.978,0.956,0.933,0.911,0.889,0.867,0.844,0.822$, $0.800,0.778,0.988,0.975,0.963,0.950,0.938,0.925,0.913,0.900,0.888,0.875,0.992,0.983,0$ $.975,0.967,0.958,0.950,0.942,0.933,0.925,0.917,0.983,0.967,0.950,0.933,0.917,0.900,0$. $883,0.867,0.850,0.833,0.980,0.960,0.940,0.920,0.900,0.880,0.860,0.840,0.820,0.800,0.9$ $50,0.900,0.850,0.800,0.750,0.700,0.650,0.600,0.550,0.500,0.950,0.900,0.850,0.800,0.75$ $0,0.700,0.650,0.600,0.550,0.500,0.988,0.975,0.963,0.950,0.938,0.925,0.913,0.900,0.888$ $, 0.875,0.986,0.971,0.957,0.943,0.929,0.914,0.900,0.886,0.871,0.857,0.975,0.950,0.925$, $0.900,0.875,0.850,0.825,0.800,0.775,0.750,0.990,0.980,0.970,0.960,0.950,0.940,0.930,0$ $.920,0.910,0.900,0.967,0.933,0.900,0.867,0.833,0.800,0.767,0.733,0.700,0.667,0.960,0$ $920,0.880,0.840,0.800,0.760,0.720,0.680,0.640,0.600,0.986,0.971,0.957,0.943,0.929,0.9$ $14,0.900,0.886,0.871,0.857,0.988,0.975,0.963,0.950,0.938,0.925,0.913,0.900,0.888,0.87$ $5,0.933,0.867,0.800,0.733,0.667,0.600,0.533,0.467,0.400,0.333,0.986,0.971,0.957,0.943$ $, 0.929,0.914,0.900,0.886,0.871,0.857,0.967,0.933,0.900,0.867,0.833,0.800,0.767,0.733$, $0.700,0.667,0.983,0.967,0.950,0.933,0.917,0.900,0.883,0.867,0.850,0.833,0.988,0.975,0$ $.963,0.950,0.938,0.925,0.913,0.900,0.888,0.875,0.978,0.956,0.933,0.911,0.889,0.867,0$. $844,0.822,0.800,0.778,0.975,0.950,0.925,0.900,0.875,0.850,0.825,0.800,0.775,0.750,0.9$ $78,0.956,0.933,0.911,0.889,0.867,0.844,0.822,0.800,0.778,0.950,0.900,0.850,0.800,0.75$ $0,0.700,0.650,0.600,0.550,0.500$

## ANEXO 8 - Tiempo en reparación

$\mathrm{X} 1: 0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0$. $1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1$ $, 0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1$, $0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0$ $.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0$ $2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2$ $, 0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3$, $0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0$ $.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0$. $3,0.3,0.3,0.3,0.3,0.3,0.3,0.3$
$\mathbf{x} 2: 0,0,0,0,0,0,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0$ $3,0.4,0.4,0.4,0.4,0.4,0.4,0.5,0.5,0.5,0.5,0.5,0.5,0.6,0.6,0.6,0.6,0.6,0.6,0.7,0.7,0.7$ $, 0.7,0.7,0.7,0.8,0.8,0.8,0.8,0.8,0.8,0.9,0.9,0.9,0.9,0.9,0.9,1,1,1,1,1,1,0,0,0,0,0,0$, $0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0$ $.4,0.4,0.4,0.5,0.5,0.5,0.5,0.5,0.5,0.6,0.6,0.6,0.6,0.6,0.6,0.7,0.7,0.7,0.7,0.7,0.7,0$. $8,0.8,0.8,0.8,0.8,0.8,0.9,0.9,0.9,0.9,0.9,0.9,1,1,1,1,1,1,0,0,0,0,0,0,0.1,0.1,0.1,0.1$ $, 0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0.4,0.4,0.4,0.5$, $0.5,0.5,0.5,0.5,0.5,0.6,0.6,0.6,0.6,0.6,0.6,0.7,0.7,0.7,0.7,0.7,0.7,0.8,0.8,0.8,0.8,0$ $.8,0.8,0.9,0.9,0.9,0.9,0.9,0.9,1,1,1,1,1,1$
$\mathbf{x} 3: 0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0$. $3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6$ $, 0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3$, $0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0$ $.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0$. $4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1$ $, 0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4$, $0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0$ $.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0.5,0.6,0.1,0.2,0.3,0.4,0$. $5,0.6,0.1,0.2,0.3,0.4,0.5,0.6$
$\mathbf{Y}: 0,0,0,0,0,0,0.1,0.09,0.08,0.07,0.06,0.05,0.2,0.18,0.16,0.14,0.12,0.1,0.3,0.27,0.24$, $0.21,0.18,0.15,0.4,0.36,0.32,0.28,0.24,0.2,0.5,0.45,0.4,0.35,0.3,0.25,0.6,0.54,0.48,0$ $.42,0.36,0.3,0.7,0.63,0.56,0.49,0.42,0.35,0.8,0.72,0.64,0.56,0.48,0.4,0.9,0.81,0.72,0$ $.63,0.54,0.45,1,0.9,0.8,0.7,0.6,0.5,0,0,0,0,0,0,0.1,0.09,0.08,0.07,0.06,0.05,0.2,0.18$ $, 0.16,0.14,0.12,0.1,0.3,0.27,0.24,0.21,0.18,0.15,0.4,0.36,0.32,0.28,0.24,0.2,0.5,0.45$ $, 0.4,0.35,0.3,0.25,0.6,0.54,0.48,0.42,0.36,0.3,0.7,0.63,0.56,0.49,0.42,0.35,0.8,0.72$, $0.64,0.56,0.48,0.4,0.9,0.81,0.72,0.63,0.54,0.45,1,0.9,0.8,0.7,0.6,0.5,0,0,0,0,0,0,0.1$ $, 0.09,0.08,0.07,0.06,0.05,0.2,0.18,0.16,0.14,0.12,0.1,0.3,0.27,0.24,0.21,0.18,0.15,0$. $4,0.36,0.32,0.28,0.24,0.2,0.5,0.45,0.4,0.35,0.3,0.25,0.6,0.54,0.48,0.42,0.36,0.3,0.7$, $0.63,0.56,0.49,0.42,0.35,0.8,0.72,0.64,0.56,0.48,0.4,0.9,0.81,0.72,0.63,0.54,0.45,1,0$ $.9,0.8,0.7,0.6,0.5$

## ANEXO 9 - Merma

x1:0.1,0.2,0.3,0.4,0.1,0.2,0.3,0.4,0.1,0.2,0.3,0.4,0.1,0.2,0.3,0.4,0.1,0.2,0.3,0.4,0. $1,0.2,0.3,0.4,0.5,0.1,0.2,0.3,0.4,0.1,0.2,0.3,0.4,0.5,0.1,0.2,0.3,0.4,0.5,0.1,0.2,0.3$ , 0.4,0.5,0.1,0.2,0.3,0.4,0.5,0.1,0.2,0.1,0.2,0.3,0.4,0.5,0.1,0.2,0.3,0.4,0.5,0.1,0.2, $0.3,0.4,0.5,0.1,0.2,0.3,0.4,0.5,0.1,0.2,0.3,0.4,0.5,0.1,0.2,0.3,0.4,0.5,0.1,0.2,0.3,0$ $.4,0.5,0.1,0.2,0.3,0.4,0.5,0.1,0.2,0.3,0.4,0.5,0.1,0.2,0.3,0.4,0.5,0.1,0.2,0.3,0.4,0$. $5,0.1,0.2,0.3,0.4,0.5,0.1,0.2,0.3,0.4,0.5,0.1,0.2,0.3,0.4,0.5,0.1,0.2,0.3,0.4,0.5,0.1$ , 0.2,0.3,0.4,0.5,0.1,0.2,0.3,0.4,0.5,0.1,0.2,0.3,0.4,0.5,0.1,0.2,0.3,0.4,0.5,0.1,0.2, $0.3,0.4,0.5,0.1,0.2,0.3,0.4,0.5,0.1,0.2,0.3,0.4,0.5,0.1,0.2,0.3,0.4,0.5,0.1,0.2,0.3,0$ .4,0.5,0.1,0.2,0.3,0.4,0.5
x2: $0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.1,0$. $1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0.4,0.4,0.5,0.5,0.1$ $, 0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0.4,0.4,0.5,0.5$, $0.5,0.5,0.5,0.6,0.6,0.6,0.6,0.6,0.7,0.7,0.7,0.7,0.7,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0$ $.2,0.2,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0.4,0.4,0.5,0.5,0.5,0.5,0.5,0.6,0.6,0.6,0.6,0$. $6,0.7,0.7,0.7,0.7,0.7,0.8,0.8,0.8,0.8,0.8,0.9,0.9,0.9,0.9,0.9,0.1,0.1,0.1,0.1,0.1,0.2$ $, 0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0.4,0.4,0.5,0.5,0.5,0.5,0.5,0.6,0.6$, $0.6,0.6,0.6,0.7,0.7,0.7,0.7,0.7,0.8,0.8,0.8,0.8,0.8,0.9,0.9,0.9,0.9,0.9$
x3:0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.4,0.4,0.4,0.4,0.5,0.5,0.5,0.5,0. $1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.1,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2$ $, 0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.2,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3$, $0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0.3,0$ $.3,0.3,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0$. $4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4,0.4$ $, 0.4,0.4,0.4,0.4,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5$, $0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0.5,0$ . 5, 0.5,0.5,0.5,0.5,0.5,0.5
$\mathbf{Y}: 0.962,0.885,0.808,0.731,0.981,0.942,0.904,0.865,0.987,0.962,0.936,0.910,0.990,0.971$ , 0.952,0.933, 0.992,0.977,0.962,0.946,0.577,0.500,0.423,0.346,0.269,0.192,0.115,0.038, $0.000,0.788,0.750,0.712,0.673,0.635,0.596,0.558,0.519,0.481,0.442,0.404,0.365,0.327,0$ $.288,0.250,0.212,0.173,0.135,0.096,0.058,0.019,0.000,0.859,0.833,0.808,0.782,0.756,0$. $731,0.705,0.679,0.654,0.628,0.603,0.577,0.551,0.526,0.500,0.474,0.449,0.423,0.397,0.3$ $72,0.346,0.321,0.295,0.269,0.244,0.218,0.192,0.167,0.141,0.115,0.090,0.064,0.038,0.01$ $3,0.000,0.894,0.875,0.856,0.837,0.817,0.798,0.779,0.760,0.740,0.721,0.702,0.683,0.663$ $, 0.644,0.625,0.606,0.587,0.567,0.548,0.529,0.510,0.490,0.471,0.452,0.433,0.413,0.394$, $0.375,0.356,0.337,0.317,0.298,0.279,0.260,0.240,0.221,0.202,0.183,0.163,0.144,0.125,0$ $.106,0.087,0.067,0.048,0.915,0.900,0.885,0.869,0.854,0.838,0.823,0.808,0.792,0.777,0$. $762,0.746,0.731,0.715,0.700,0.685,0.669,0.654,0.638,0.623,0.608,0.592,0.577,0.562,0.5$ $46,0.531,0.515,0.500,0.485,0.469,0.454,0.438,0.423,0.408,0.392,0.377,0.362,0.346,0.33$ $1,0.315,0.300,0.285,0.269,0.254,0.238$

