

Датасет: Проекты Kickstarter

Ссылка: <https://www.kaggle.com/kemical/kickstarter-projects> (<https://www.kaggle.com/kemical/kickstarter-projects>)

```
In [1]: import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import random
%matplotlib inline

df_kickstarter = pd.read_csv("ks-projects-201801.csv")
```

```
In [2]: df_kickstarter.info()

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 378661 entries, 0 to 378660
Data columns (total 15 columns):
ID                378661 non-null int64
name              378657 non-null object
category          378661 non-null object
main_category     378661 non-null object
currency          378661 non-null object
deadline          378661 non-null object
goal              378661 non-null float64
launched          378661 non-null object
pledged           378661 non-null float64
state             378661 non-null object
backers           378661 non-null int64
country           378661 non-null object
usd_pledged       374864 non-null float64
usd_pledged_real  378661 non-null float64
usd_goal_real     378661 non-null float64
dtypes: float64(5), int64(2), object(8)
memory usage: 43.3+ MB
```

```
In [24]: df_kickstarter[df_kickstarter.state == "suspended"].sort_values(by='usd_pledged_real', ascending=False)
```

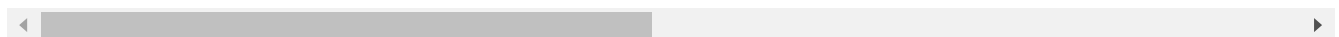
	ID	name	category	main_category	currency	deadline	goal	launched
264291	414157650	The Skarp Laser Razor: 21st Century Shaving (S...	Technology	Technology	USD	2015-10-19	160000.0	2015-09-21 23:32:34
114691	1582427630	anonabox : a Tor hardware router (Suspended)	Gadgets	Technology	USD	2014-11-12	7500.0	2014-10-13 02:19:46
283466	512323466	iFind - The World's First Battery-Free Item Lo...	Technology	Technology	USD	2014-06-30	25000.0	2014-05-16 16:14:48
141092	1716567454	Firestarter Survival Bracelet / Carabiner Para...	Technology	Technology	USD	2015-08-14	10000.0	2015-06-15 14:11:01
84248	1428386822	73 Year Old Watchmaker Launches NEWEST Watch W...	Product Design	Design	USD	2015-05-18	10000.0	2015-04-13 17:06:48
166950	1849224030	Relieve Neck Pain + Get Weight off your Should...	Product Design	Design	USD	2016-09-16	10000.0	2016-08-02 20:06:54
233528	257060722	The NexD1 - The first Multimaterial & Electron...	3D Printing	Technology	EUR	2017-01-27	200000.0	2016-12-13 15:21:00
377481	994137973	UsBidi - The World's Most Intelligent Charger ...	Gadgets	Technology	AUD	2015-12-04	35000.0	2015-10-20 15:33:54
365066	930080064	Dot - World's Smallest Bluetooth Headset (Susp...	Wearables	Technology	USD	2015-08-06	30000.0	2015-07-07 17:00:18
318589	692705779	Vector ?E-bike of new generation! (Suspended)	Technology	Technology	USD	2014-12-18	100000.0	2014-11-20 22:29:25
188905	1961208772	iLDOCK - charge and listen to iPhone 7 at the ...	Product Design	Design	USD	2016-10-28	5000.0	2016-09-29 19:19:54
372562	968630843	KYTCHO. Sharpness redefined. Chef knife made i...	Food	Food	EUR	2016-07-08	20000.0	2016-06-08 19:21:18
244387	312939196	Hagic Smartwatch - your time, your style, your...	Wearables	Technology	USD	2017-05-25	50000.0	2017-04-10 19:14:56
138483	1703293791	LMcable The world's first IOS & Android Comm...	Gadgets	Technology	AUD	2016-03-31	5000.0	2016-02-20 02:30:53
319821	698957189	"UBER" of Ice Cream: 24/7. Global. "On-Demand"...	Design	Design	USD	2015-09-29	500.0	2015-07-31 00:54:30
201164	2024398302	UPAS (Suspended)	Hardware	Technology	GBP	2014-11-06	1000.0	2014-10-07 07:00:20

	ID	name	category	main_category	currency	deadline	goal	launched
210804	2074262891	Trinity Portable Wind Turbine Power Station (S...	Design	Design	USD	2015-10-26	50000.0	2015-09-21 11:54:55
305089	623603468	VacuumClicka™ - The World's Best Portable Vacu...	Product Design	Design	CAD	2015-09-24	15000.0	2015-08-10 03:45:45
6725	1034234910	Koze - Lightweight, Inflatable, and Amazing Co...	Product Design	Design	USD	2016-06-12	4000.0	2016-04-13 00:43:48
279465	491601238	Q2B Kingdom - The first global finance casual ...	Mobile Games	Games	CAD	2014-07-09	200000.0	2014-06-01 17:43:55
346211	833481787	KOBE RED - 100% JAPANESE BEER FED KOBE BEEF ...	Food	Food	USD	2013-06-13	2374.0	2013-05-14 18:32:58
199864	2017749743	TESLA – self-rechargeable, electronic lighter ...	Technology	Technology	USD	2016-02-02	5000.0	2015-12-29 18:25:51
37184	1188650121	ParaShoot 2.0 - Multi Use, Wearable Smart HD C...	Technology	Technology	USD	2013-10-01	30000.0	2013-08-14 07:04:51
178098	1906207814	The world's ONLY PROVEN calorie burning coolin...	Wearables	Technology	USD	2015-03-26	5800.0	2015-02-24 22:37:18
43692	1222306211	VOLTA: The World's Strongest Cross-device Magn...	Gadgets	Technology	AUD	2017-02-27	10000.0	2017-02-01 00:01:25
347734	841454235	Repulsor. Your Ultra Powerful Wearable Flashli...	Technology	Technology	USD	2016-05-15	20000.0	2016-03-29 18:20:26
295309	573070488	iScream - Smart Double Flavour Ice Cream Maker...	Product Design	Design	USD	2015-09-17	50000.0	2015-08-18 08:49:56
240815	294829916	Freedom Sleeve: Turn your iPod into an iPhone ...	Hardware	Technology	USD	2012-09-14	100000.0	2012-07-31 18:07:46
172543	1877574221	ET Mini: Make Entertainment Great Again!	Camera Equipment	Technology	AUD	2017-05-09	39048.0	2017-03-10 13:53:37
128106	165025559	PillarHub (Suspended)	Gadgets	Technology	USD	2016-06-27	25000.0	2016-05-13 22:24:25
...
71637	1364829914	Live Streaming career (Suspended)	Technology	Technology	SEK	2014-12-19	10000.0	2014-10-20 23:41:00
143768	1730274978	Motivational Movement II (Suspended)	Hip-Hop	Music	USD	2011-08-13	5000.0	2011-07-14 19:14:43

	ID	name	category	main_category	currency	deadline	goal	launched
295757	575390840	New Innovative LGBTQ Social Network Website + App	Web	Technology	USD	2015-09-06	3000.0	2015-08-07 22:26:39
71595	1364562319	Zero Patience Gaming Needs a Desktop	Gaming Hardware	Games	USD	2017-02-26	750.0	2017-01-27 00:26:27
71446	1363859711	The Future Game Designer	Video Games	Games	MXN	2017-06-07	5500.0	2017-05-08 19:45:06
70550	1359114857	Masturbate in the Face (Suspended)	Classical Music	Music	SEK	2015-01-31	4129.0	2015-01-23 14:15:09
146091	1742246793	Darklighter Debut EP	Music	Music	USD	2017-06-21	600.0	2017-06-06 04:00:23
297081	582412961	Bring Subaru Legacy 1994 back to life! (Suspen...	Painting	Art	GBP	2015-10-14	150.0	2015-09-14 18:21:50
297314	583737760	Fried Computer Project (Suspended)	Hardware	Technology	USD	2015-06-05	600.0	2015-05-06 23:15:54
72845	1370904785	Remembering Biggie Shay (Suspended)	Music	Music	USD	2015-02-25	10000.0	2015-01-26 06:21:20
292878	560661	DJ Rafstar attends music production & masterin...	Electronic Music	Music	USD	2015-03-22	3500.0	2015-02-20 05:15:50
290184	546540380	http://boo.bs - fighting breast cancer with so...	Games	Games	USD	2010-11-01	15000.0	2010-08-09 05:41:40
221351	2127489984	Let's get Kill Kill to Japan with a 7" re...	Music	Music	USD	2010-10-01	800.0	2010-08-18 21:09:22
141915	1721023288	Geek Lotto (Suspended)	Gaming Hardware	Games	CAD	2015-10-08	7500.0	2015-08-09 05:31:34
290345	547267636	My Girlfriend Likes Hot Cheetos (Suspended)	Bacon	Food	USD	2014-08-07	15.0	2014-07-08 09:22:14
76529	1389484553	Travel to London to See the architecture (Susp...	Places	Photography	USD	2015-11-05	4000.0	2015-09-06 06:31:25
143099	1727089495	Hoverbike (MA) (Suspended)	Technology	Technology	SEK	2015-07-23	100000.0	2015-06-23 11:00:43
143167	1727357554	lancer ralliart / evo turbocharge (Suspended)	Games	Games	CAD	2015-04-15	10000.0	2015-03-16 18:31:03
75941	138673845	The Power of Music (Suspended)	Indie Rock	Music	USD	2015-05-12	3000.0	2015-04-12 11:08:14
143177	1727413223	Beat Charlie With A Sock Full of Quarters (Sus...	Dance	Dance	USD	2015-03-14	20.0	2015-02-12 20:02:54

	ID	name	category	main_category	currency	deadline	goal	launched
74782	138106004	NAVADA WYCOUGH REHAB FUNDRAISER (Suspended)	Web	Journalism	USD	2015-04-29	2500.0	2015-03-15 05:52:59
292362	557845082	Marilyn Nude Photo Art Fantasy	People	Photography	USD	2017-10-18	50.0	2017-09-18 10:14:18
291695	554240702	Verdubbel €50,- naar €10.000,- in één klap (Su...	Young Adult	Publishing	EUR	2015-10-08	20000.0	2015-09-08 22:33:15
291826	554947846	Octagonian Poetry (Suspended)	Poetry	Publishing	USD	2015-06-18	888.0	2015-05-21 10:47:13
221307	2127197966	Enfant Pommé- A Project that started 2 years a...	Apparel	Fashion	EUR	2018-01-04	12000.0	2017-11-13 11:06:17
221196	212666774	Travelling Mermaid and Cosplayer	People	Photography	USD	2017-05-02	10000.0	2017-03-30 00:26:18
74182	1378059690	TextAPrayer.Com The site where needs meet ...	Technology	Technology	USD	2011-07-06	50000.0	2011-06-06 21:44:14
73084	1372111446	TuffLove Leather Toys (Suspended)	Weaving	Crafts	USD	2015-02-07	3000.0	2015-01-23 14:35:08
292288	557421137	Droppin' Baits (Suspended)	Live Games	Games	USD	2015-09-22	500.0	2015-08-23 17:11:05
193404	1984141754	Project Sasquatch (Suspended)	Taxidermy	Crafts	USD	2015-10-23	250000.0	2015-09-08 22:51:53

1846 rows × 17 columns



The Skarp Laser Razor: 21st Century Shaving:

<https://yandex.ru/turbo?text=https%3A%2F%2Fhi-news.ru%2Ftechnology%2Fflazernaya-britva-skarp-laser-razor-ili-kak-obmanut-vkladchikov-na-4-milliona-dollarov.html> (<https://yandex.ru/turbo?text=https%3A%2F%2Fhi-news.ru%2Ftechnology%2Fflazernaya-britva-skarp-laser-razor-ili-kak-obmanut-vkladchikov-na-4-milliona-dollarov.html>)

ТОП-11 "подозрительных" проектов, которые были отменены, находятся в категориях "Технологии" и "Дизайн"

In [4]:

df_kickstarter.head()

Out[4]:

	ID	name	category	main_category	currency	deadline	goal	launched	pledged
0	1000002330	The Songs of Adelaide & Abullah	Poetry	Publishing	GBP	2015-10-09	1000.0	2015-08-11 12:12:28	0.0
1	1000003930	Greeting From Earth: ZGAC Arts Capsule For ET	Narrative Film	Film & Video	USD	2017-11-01	30000.0	2017-09-02 04:43:57	2421.0
2	1000004038	Where is Hank?	Narrative Film	Film & Video	USD	2013-02-26	45000.0	2013-01-12 00:20:50	220.0
3	1000007540	ToshiCapital Rekordz Needs Help to Complete Album	Music	Music	USD	2012-04-16	5000.0	2012-03-17 03:24:11	1.0
4	1000011046	Community Film Project: The Art of Neighborhoo...	Film & Video	Film & Video	USD	2015-08-29	19500.0	2015-07-04 08:35:03	1283.0

In [5]:

df_new = df_kickstarter.drop(['ID', 'currency', 'goal', 'pledged', 'usd pledged'], axis=1)
df_new.head()

Out[5]:

	name	category	main_category	deadline	launched	state	backers	country	usd_pledged_
0	The Songs of Adelaide & Abullah	Poetry	Publishing	2015-10-09	2015-08-11 12:12:28	failed	0	GB	
1	Greeting From Earth: ZGAC Arts Capsule For ET	Narrative Film	Film & Video	2017-11-01	2017-09-02 04:43:57	failed	15	US	24
2	Where is Hank?	Narrative Film	Film & Video	2013-02-26	2013-01-12 00:20:50	failed	3	US	2
3	ToshiCapital Rekordz Needs Help to Complete Album	Music	Music	2012-04-16	2012-03-17 03:24:11	failed	1	US	
4	Community Film Project: The Art of Neighborhoo...	Film & Video	Film & Video	2015-08-29	2015-07-04 08:35:03	canceled	14	US	12

```

In [6]: # prepare data
df_state_pie = df_kickstarter.groupby('state').size().reset_index(name='counts')

# Draw Plot
fig, ax = plt.subplots(figsize=(5, 5), subplot_kw=dict(aspect="equal"), dpi= 80)

data = df_state_pie['counts']
categories = df_state_pie['state']
explode = [0,0,0,0,0.1,0]

def func(pct, allvals):
    absolute = int(pct/100.*np.sum(allvals))
    return "{:.1f}% ({:d})".format(pct, absolute)

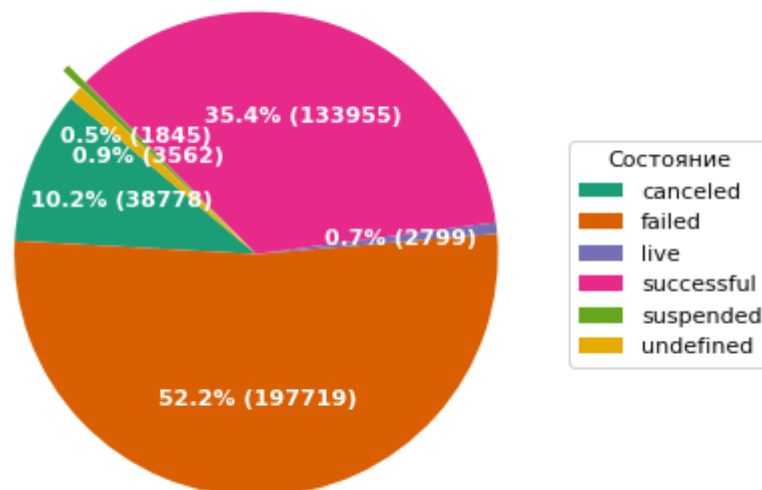
wedges, texts, autotexts = ax.pie(data,
                                   autopct=lambda pct: func(pct, data),
                                   textprops=dict(color="w"),
                                   colors=plt.cm.Dark2.colors,
                                   startangle=140,
                                   explode=explode)

# Decoration
ax.legend(wedges, categories, title="Состояние", loc="center left", bbox_to_anchor=(1
, 0, 0.5, 1))
plt.setp(autotexts, size=10, weight=700)
ax.set_title("Процентное соотношение состояний всех проектов")
plt.show()

# proof:
print("proofs:")
df_kickstarter.state.value_counts()

```

Процентное соотношение состояний всех проектов



proofs:

```

Out[6]: failed      197719
successful  133956
canceled    38779
undefined    3562
live         2799
suspended    1846
Name: state, dtype: int64

```


- Только 1/3 проектов собирает необходимую сумму

График статусов проектов с накоплением

```

In [7]: # Prepare data
x_var = 'main_category'
groupby_var = 'state'
df_new_new = df_new.loc[:, [x_var, groupby_var]].groupby(groupby_var)
vals = [df_new[x_var].values.tolist() for i, df_new in df_new_new]

# Draw
plt.figure(figsize=(16,5), dpi= 80)
colors = [plt.cm.Spectral(i/float(len(vals)-1)) for i in range(len(vals))]
n, bins, patches = plt.hist(vals, df_new[x_var].unique().__len__(), stacked=True, density=False, color=colors[:len(vals)])

# Decoration
plt.legend({group:col for group, col in zip(np.unique(df_new[groupby_var]).tolist(), colors[:len(vals)])})
plt.title("График статусов проектов по категориям", fontsize=22)
plt.xlabel("Категории")
plt.ylabel("Количество")
plt.xticks(ticks=bins, rotation=30, horizontalalignment='center')
#plt.xticks(ticks=bins, labels=np.unique(df_new[x_var]).tolist(), rotation=30, horizontalalignment='left')
plt.show()

# proof:
print("proofs:")
df_kickstarter.main_category.value_counts()

```



proofs:

```

Out[7]: Film & Video    63585
        Music          51918
        Publishing     39874
        Games         35231
        Technology     32569
        Design        30070
        Art           28153
        Food          24602
        Fashion       22816
        Theater       10913
        Comics        10819
        Photography   10779
        Crafts        8809
        Journalism    4755
        Dance         3768
        Name: main_category, dtype: int64

```

- Самыми популярными категориями являются Фильмы&Видео, Музыка и Публицистика
- Наименее популярными являются Журналистика и Танцы

Добавление столбца "Профит" и нормализация столбца "Страна":

```
In [8]: df_kickstarter['profit'] = df_kickstarter["usd_pledged_real"] - df_kickstarter["usd_g
oal_real"]
df_kickstarter.loc[df_kickstarter['profit'] < 0, 'profit'] = 0
```

```
In [9]: df_kickstarter['country_new'] = df_kickstarter['country']
df_kickstarter.loc[df_kickstarter['country_new'] != 'US', 'country_new'] = 'other'

df_profit = df_kickstarter[df_kickstarter.profit > 0]
df_profit = df_profit[df_profit.state == "successful"]

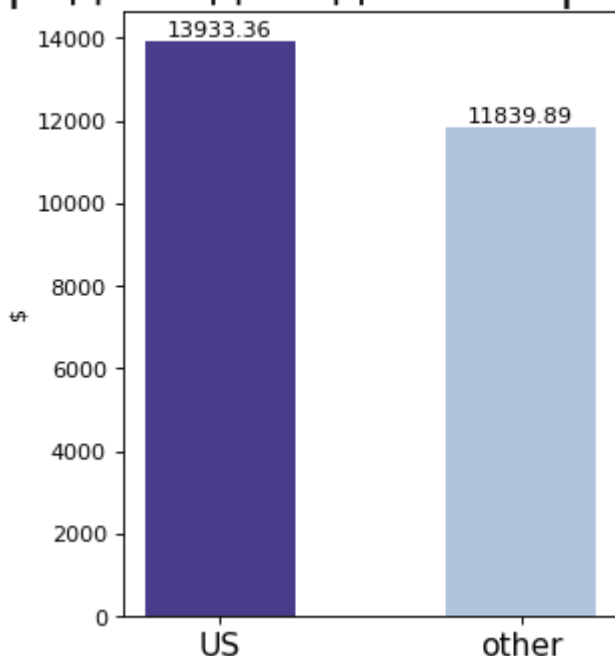
df_countries_profit = df_profit.groupby('country_new', as_index=False).mean()
```

```
In [10]: # Prepare Data
df = df_countries_profit
n = df['country_new'].unique().__len__()+1
all_colors = list(plt.cm.colors.cnames.keys())
random.seed(3)
c = random.choices(all_colors, k=n)

# Plot Bars
plt.figure(figsize=(4,5), dpi= 80)
plt.bar(df['country_new'], df['profit'], color=c, width=.5)
for i, val in enumerate(df['profit'].values):
    plt.text(i, val, round(val,2), horizontalalignment='center', verticalalignment='b
ottom', fontdict={'fontweight':500, 'size':10})

# Decoration
plt.gca().set_xticklabels(df['country_new'], horizontalalignment= 'center', fontsize=
14)
plt.title("Средняя доходность проектов", fontsize=22)
plt.ylabel('$')
plt.show()
```

Средняя доходность проектов



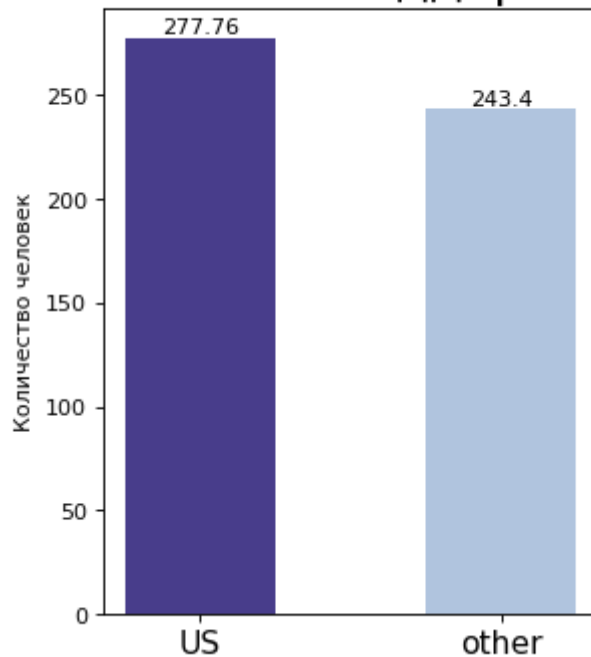
- Доходность проектов, размещенных в США выше, чем в остальном мире

```
In [11]: # Prepare Data
df = df_countries_profit
n = df['country_new'].unique().__len__()+1
all_colors = list(plt.cm.colors.cnames.keys())
random.seed(3)
c = random.choices(all_colors, k=n)

# Plot Bars
plt.figure(figsize=(4,5), dpi= 80)
plt.bar(df['country_new'], df['backers'], color=c, width=.5)
for i, val in enumerate(df['backers'].values):
    plt.text(i, val, round(val,2), horizontalalignment='center', verticalalignment='bottom', fontdict={'fontweight':500, 'size':10})

# Decoration
plt.gca().set_xticklabels(df['country_new'], horizontalalignment= 'center', fontsize=14)
plt.title("Среднее количество поддержавших людей", fontsize=22)
plt.ylabel('Количество человек')
plt.show()
```

Среднее количество поддержавших людей



- В среднем, люди чаще поддерживают проекты из США

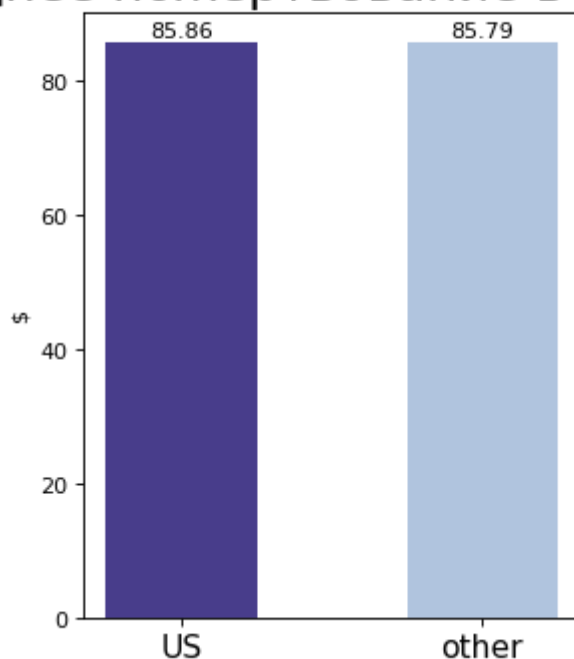
```
In [12]: df_kickstarter_mean = df_profit.groupby('country_new', as_index=False).mean()
df_kickstarter_mean['avg_usd_pledged'] = df_kickstarter_mean['usd_pledged_real'] / df
_kickstarter_mean['backers']
#df_profit.groupby('country_new', as_index=False).mean()

# Prepare Data
df = df_kickstarter_mean
n = df['country_new'].unique().__len__()+1
all_colors = list(plt.cm.colors.cnames.keys())
random.seed(3)
c = random.choices(all_colors, k=n)

# Plot Bars
plt.figure(figsize=(4,5), dpi= 80)
plt.bar(df['country_new'], df['avg_usd_pledged'], color=c, width=.5)
for i, val in enumerate(df['avg_usd_pledged'].values):
    plt.text(i, val, round(val,2), horizontalalignment='center', verticalalignment='b
ottom', fontdict={'fontweight':500, 'size':10})

# Decoration
plt.gca().set_xticklabels(df['country_new'], horizontalalignment= 'center', fontsize=
14)
plt.title("Среднее пожертвование в странах", fontsize=22)
plt.ylabel('$')
plt.show()
```

Среднее пожертвование в странах



- Сумма среднего пожертвования почти не отличается в разных странах

```

In [13]: df_categories_profit = df_profit.groupby('main_category', as_index=False).mean()

avg_profit = np.average(df_profit.profit)

# Prepare Data
x = df_categories_profit.loc[:, ['profit']]
df_categories_profit['profit_z'] = (x - avg_profit)/x.std()
df_categories_profit['colors'] = ['red' if x < avg_profit else 'green' for x in df_categories_profit['profit']]
df_categories_profit.sort_values('profit', inplace=True)
df_categories_profit.reset_index(inplace=True)

# Draw plot
plt.figure(figsize=(10,8), dpi= 80)
plt.hlines(y=df_categories_profit.index, xmin=avg_profit, xmax=df_categories_profit.profit)
for x, y, tex in zip(df_categories_profit.profit, df_categories_profit.index, df_categories_profit.profit_z):
    lab = round((tex * 100)- 100, 1)
    if lab > 0:
        lab = "+" + str(lab)

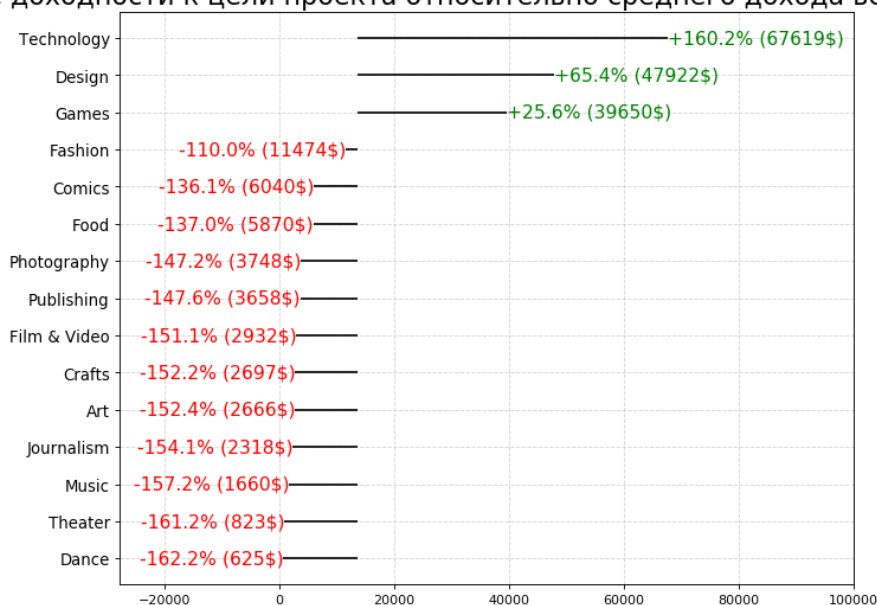
    lab = str(lab) + "%" + " (" + str(round(x)) + "$)"

    t = plt.text(x, y, lab, horizontalalignment='right' if x < avg_profit else 'left',
                verticalalignment='center', fontdict={'color':'red' if x < avg_profit else 'green', 'size':14})

# Decorations
plt.yticks(df_categories_profit.index, df_categories_profit.main_category, fontsize=12)
plt.title('Отношение доходности к цели проекта относительно среднего дохода всех проектов (в %)', fontdict={'size':20})
plt.grid(linestyle='--', alpha=0.5)
plt.xlim(-28000, 100000)
plt.show()

```

Отношение доходности к цели проекта относительно среднего дохода всех проектов (в %)



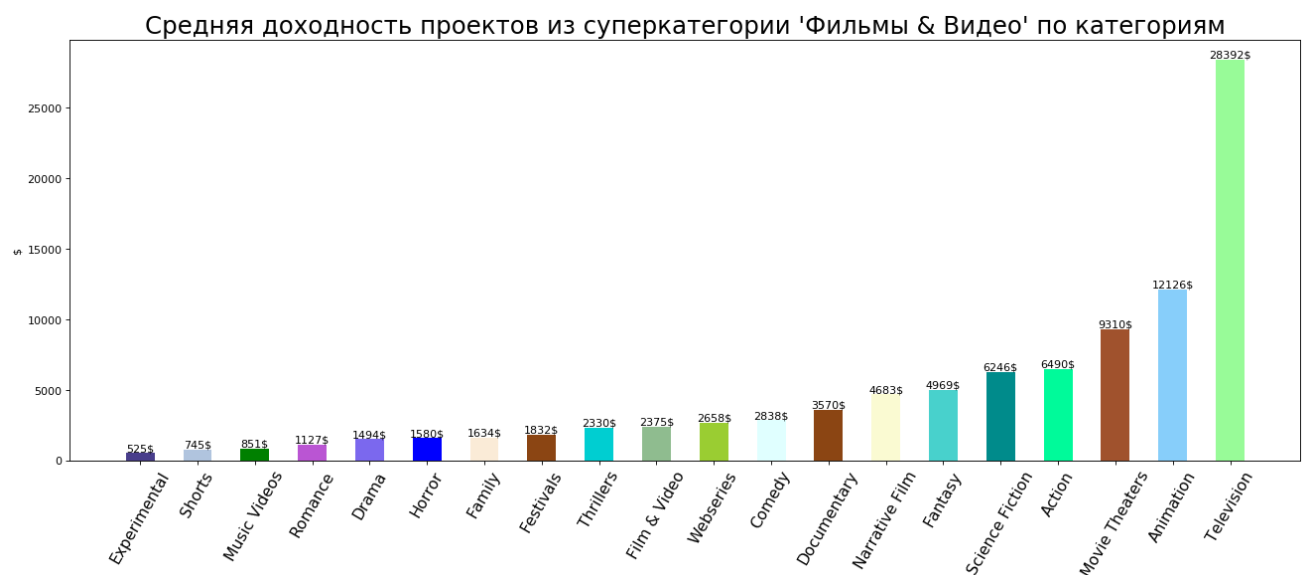
- Средний "профит" проектов составляет 13548.82\$
- В среднем, успешные проекты в сфере технологий получают на 160% больше денег (среди всех успешных проектов)
- Танцы - наименее доходный вид проектов

```
In [14]: df_category_mean = df_profit[df_profit.main_category == "Film & Video"].groupby('category', as_index=False).mean()
#df_profit.groupby('country_new', as_index=False).mean()

# Prepare Data
df = df_category_mean
df.sort_values('profit', inplace=True)
n = df['category'].unique().__len__()+1
all_colors = list(plt.cm.colors.cnames.keys())
random.seed(3)
c = random.choices(all_colors, k=n)

# Plot Bars
plt.figure(figsize=(20,7), dpi= 80)
plt.bar(df['category'], df['profit'], color=c, width=.5)
for i, val in enumerate(df['profit'].values):
    plt.text(i, val, str(int(val))+"$", horizontalalignment='center', verticalalignment='bottom', fontdict={'fontweight':500, 'size':10})

# Decoration
plt.gca().set_xticklabels(df['category'], rotation=60, horizontalalignment='center', fontsize=14)
plt.title("Средняя доходность проектов из суперкатегории 'Фильмы & Видео' по категориям", fontsize=22)
plt.ylabel('$')
plt.show()
```



- Самыми успешными проектами являются проекты из категории "Телевидение"

```
In [15]: df = df_profit[df_profit.main_category == "Film & Video"]
df_1 = df.sort_values('profit', ascending=False)
df_1.head(1)
```

Out[15]:

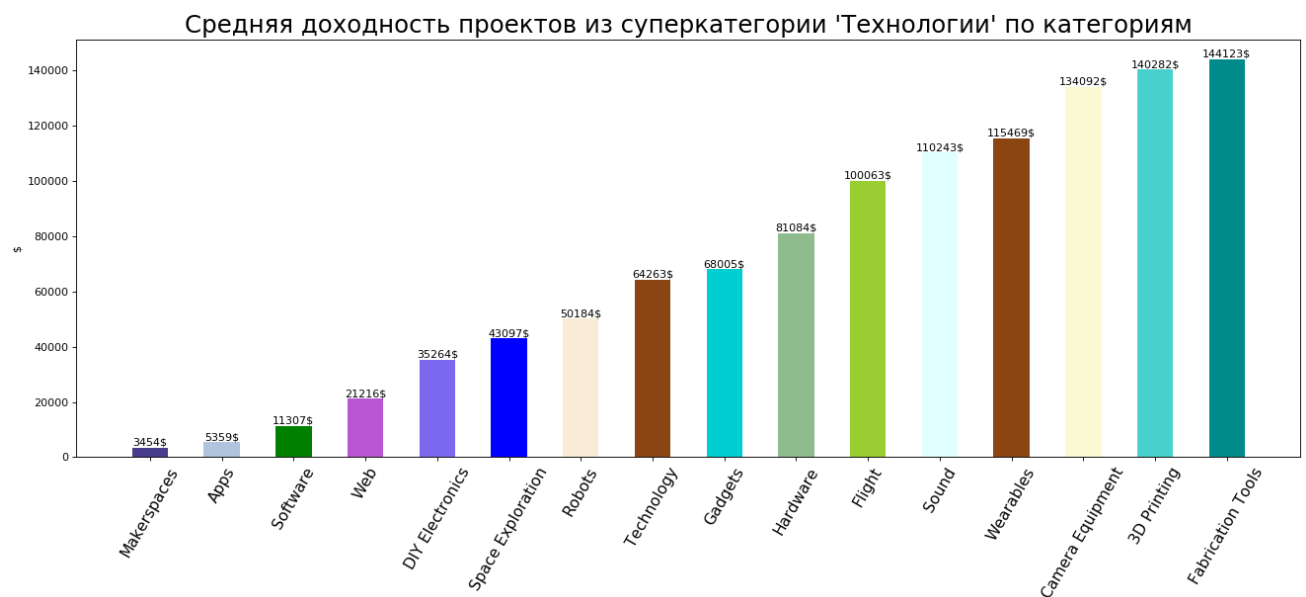
	ID	name	category	main_category	currency	deadline	goal	launched	ple
89481	1454565733	Bring Back MYSTERY SCIENCE THEATER 3000	Television	Film & Video	USD	2015-12-12	2000000.0	2015-11-10 16:49:32	57642

```
In [16]: df_category_mean = df_profit[df_profit.main_category == "Technology"].groupby('category', as_index=False).mean()
#df_profit.groupby('country_new', as_index=False).mean()

# Prepare Data
df = df_category_mean
df.sort_values('profit', inplace=True)
n = df['category'].unique().__len__()+1
all_colors = list(plt.cm.colors.cnames.keys())
random.seed(3)
c = random.choices(all_colors, k=n)

# Plot Bars
plt.figure(figsize=(20,7), dpi= 80)
plt.bar(df['category'], df['profit'], color=c, width=.5)
for i, val in enumerate(df['profit'].values):
    plt.text(i, val, str(int(val))+"$", horizontalalignment='center', verticalalignment='bottom', fontdict={'fontweight':500, 'size':10})

# Decoration
plt.gca().set_xticklabels(df['category'], rotation=60, horizontalalignment='center', fontsize=14)
plt.title("Средняя доходность проектов из суперкатегории 'Технологии' по категориям", fontsize=22)
plt.ylabel('$')
plt.show()
```




```
In [17]: df = df_profit[df_profit.main_category == "Technology"]
df_1 = df.sort_values('profit', ascending=False)
df_1.head(1)
```

Out[17]:

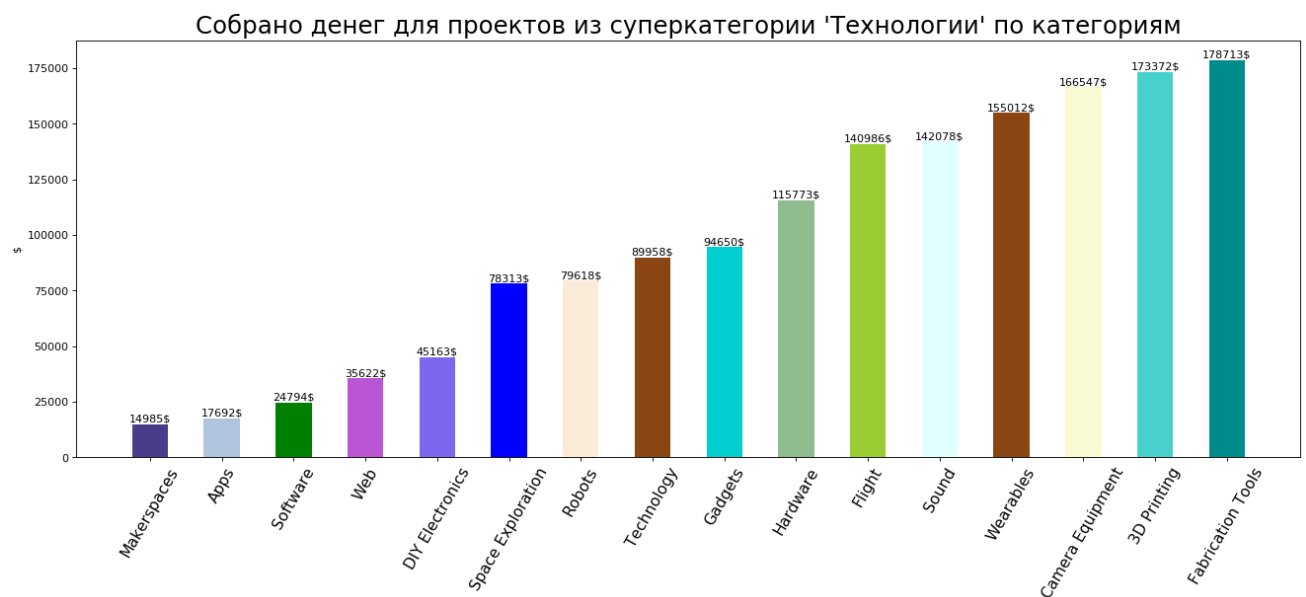
	ID	name	category	main_category	currency	deadline	goal	launched	pledged
30041	1152735261	Pono Music - Where Your Soul Rediscovered Music	Sound	Technology	USD	2014-04-15	800000.0	2014-03-11 18:30:42	622535

```
In [18]: df_category_mean = df_profit[df_profit.main_category == "Technology"].groupby('category', as_index=False).mean()
#df_profit.groupby('country_new', as_index=False).mean()

# Prepare Data
df = df_category_mean
df.sort_values('usd_pledged_real', inplace=True)
n = df['category'].unique().__len__()+1
all_colors = list(plt.cm.colors.cnames.keys())
random.seed(3)
c = random.choices(all_colors, k=n)

# Plot Bars
plt.figure(figsize=(20,7), dpi= 80)
plt.bar(df['category'], df['usd_pledged_real'], color=c, width=.5)
for i, val in enumerate(df['usd_pledged_real'].values):
    plt.text(i, val, str(int(val))+"$", horizontalalignment='center', verticalalignment='bottom', fontdict={'fontweight':500, 'size':10})

# Decoration
plt.gca().set_xticklabels(df['category'], rotation=60, horizontalalignment='center', fontsize=14)
plt.title("Собрано денег для проектов из суперкатегории 'Технологии' по категориям", fontsize=22)
plt.ylabel('$')
plt.show()
```



```
In [19]: df = df_profit[df_profit.main_category == "Technology"]
df_1 = df.sort_values('usd_pledged_real', ascending=False)
df_1.head(5)
```

Out[19]:

	ID	name	category	main_category	currency	deadline	goal	launched	
30041	1152735261	Pono Music - Where Your Soul Rediscovered Music	Sound	Technology	USD	2014-04-15	800000.0	2014-03-11 18:30:42	6:
292244	557230947	Bring Reading Rainbow Back for Every Child, Ev...	Web	Technology	USD	2014-07-02	1000000.0	2014-05-28 15:05:45	5:
143661	1729796642	ZeTime: World's first smartwatch with hands ov...	Wearables	Technology	USD	2017-04-27	50000.0	2017-03-23 15:46:47	5:
330	1001502333	Pimax: The World's First 8K VR Headset	Hardware	Technology	USD	2017-11-03	200000.0	2017-09-19 19:02:23	4:
280971	499322084	ZANO - Autonomous. Intelligent. Swarming. Nano...	Technology	Technology	GBP	2015-01-08	125000.0	2014-11-24 16:38:38	2

```
In [23]: df = df_profit
df_1 = df.sort_values('usd_pledged_real', ascending=False)
df_1.head(10)
```

Out[23]:

	ID	name	category	main_category	currency	deadline	goal	launched	
157270	1799979574	Pebble Time - Awesome Smartwatch, No Compromises	Product Design	Design	USD	2015-03-28	500000.0	2015-02-24 15:44:42	20
250254	342886736	COOLEST COOLER: 21st Century Cooler that's Act...	Product Design	Design	USD	2014-08-30	50000.0	2014-07-08 10:14:37	13
216629	2103598555	Pebble 2, Time 2 + All-New Pebble Core	Product Design	Design	USD	2016-06-30	1000000.0	2016-05-24 15:49:52	12
289915	545070200	Kingdom Death: Monster 1.5	Tabletop Games	Games	USD	2017-01-08	100000.0	2016-11-25 06:01:41	12
282416	506924864	Pebble: E-Paper Watch for iPhone and Android	Product Design	Design	USD	2012-05-19	100000.0	2012-04-11 06:59:04	10
293861	565687737	The World's Best TRAVEL JACKET with 15 Feature...	Product Design	Design	USD	2015-09-03	20000.0	2015-07-07 13:52:34	9
187652	1955357092	Exploding Kittens	Tabletop Games	Games	USD	2015-02-20	10000.0	2015-01-20 19:00:19	8
6665	1033978702	OUYA: A New Kind of Video Game Console	Gaming Hardware	Games	USD	2012-08-09	950000.0	2012-07-10 14:44:41	8
309630	647013276	THE 7th CONTINENT – What Goes Up, Must Come Down.	Tabletop Games	Games	USD	2017-10-19	40000.0	2017-09-26 20:00:02	7
271276	450099426	The Everyday Backpack, Tote, and Sling	Product Design	Design	USD	2016-09-10	500000.0	2016-07-13 00:47:35	6

- Несмотря на то, что суперкатегория "Технологии" занимает первое место по "профиту", среди ТОП-10 проектов по собранным средствам проекта из суперкатегории "Технологии" нет

In []: