

LBANK REVIEW



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GENERAL INFORMATION

LBank is a Hong-Kong based crypto exchange focused mainly on the Chinese, the US and Brazilian market. The exchange is ranked 12th by Coin Market Cap with \$237.5 mln 24h trade volume (for October 22).


12.  LBank					
#	Currency	Pair	Volume (24h)	Price	Volume (%)
1	Qtum	QTUM/BTC	\$58 489 441	\$4,41	24,62%
2	Zcash	ZEC/ETH	\$37 980 012	\$124,09	15,99%
3	Qtum	QTUM/ETH	\$35 291 435	\$4,40	14,85%
4	Bitcoin	BTC/USDT	\$31 371 343	\$6 536,50	13,20%
5	Qtum	QTUM/USDT	\$15 285 591	\$4,40	6,43%
6	EOS	EOS/ETH	\$11 151 105	\$5,48	4,69%
7	Zcash	ZEC/BTC	\$7 009 566	\$123,09	2,95%
8	Ethereum	ETH/BTC	\$5 727 777	\$205,87	2,41%
9	Primas	PST/ETH	\$4 029 113	\$0,219626	1,70%
10	Zcash	ZEC/USDT	\$3 719 674	\$123,03	1,57%
			View More		
Total			\$237 575 912		


Fig 1. (LBank's CoinMarketCap profile for October 22)

THE PLATFORM LAUNCH DATE CONTROVERCITY

The date of the platform's launch is a kind of riddle as there is controversial information that can be found even on the exchange's site. So, the first version is October 2016 (English site version) sustained by company description in official Twitter and Medium accounts and the second one is October 2017, which is more likely to be true. The following facts speak in favor of the second version: Twitter account registration date (Sep 2017), domain registration date (Sep 21, 2017), and the earliest trade history beginning in Sep 2017. Thus, the exchange's English website version and description of the company in official social media accounts give misleading information for some reason.

TEAM

Unfortunately, there is almost no public information regarding the LBank's team. There is only a mention of Eric He, the co-founder of the exchange, in the official Medium blog post but no further information was found about him or other staff members. We assume that more information could be available in the Chinese segment of the web. We managed to spot only one more person referenced to the exchange — Claudia Olah, whose LinkedIn profile states that she works as director of global marketing for RadarWin Investment Management Co. Ltd. (established in 2015 and located in Shanghai, China). It's a company investing in hi-tech and blockchain projects including DAEX.io and LBank exchanges (see fig 2).



Director of Global Marketing, Head of International BD
Radarwin Investment Management (DAEX Blockchain & LBank Exchange)
Sep 2018 – Present · 2 mos
Shanghai City, China
Radarwin Blockchain Portfolio

DAEX (Digital Assets Exchange) is a distributed digital asset clearing ecosystem built using a blockchain-based multi-asset clearing and settlement protocol.

LBank Exchange is a China-based top 10 digital asset exchange on CoinMarketCap with a focus on Asia markets that supports a large myriad of cryptocurrencies globally. [See less](#)

Fig 2. (Claudia Olah LinkedIn profile)

FIAT PAYMENT DETAILS, MARKETS, KYC&AML, APPLICATIONS

LBank offers to bind to user account the following fiat payment methods: bank card, Alipay and WeChat payment. These options are available only after completed account verification and additional "asset password" set.

While not offering fiat-to-crypto trading, the exchange allows to buy/sell crypto for CNY and USD via peer-to-peer OTC feature. Besides, the platform provides crypto trading in 119 pairs in 5 markets:

1. BTC - 23 pairs
2. USDT - 16 pairs
3. ETH - 68 pairs
4. QTUM - 8 pairs
5. LBCN - 4 pairs

- Trade fees are 0.1% for both makers and takers, except LBCN market, where trade fees are 0%.
- The exchange launched its own kind of "stablecoin" LBCN, claimed to be 1:1 backed by CNY and additionally 20% pledged by BTC.
- It's important to note that LBank has KYC and AML policies and doesn't provide services for US citizens due to regulatory hurdles.
- The platform offers to lock up rewards of 8-20% for various coins and different time periods.
- The exchange has mobile applications for Android and iOS as well as a desktop app for Windows.

LIQUIDITY REVIEW: SUSPICIOUSLY STABLE TRADE VOLUME, TRADE VOLUME & PRICE INCONSISTENCIES, ORDERBOOK MANIPULATIONS

For liquidity check of the LBank exchange, we reviewed 6 most active pairs accounting for 70-80% of exchange's total 24h trade volume: BTC/USDT, QTUM/BTC, QTUM/ETH, QTUM/USDT, EOS/ETH, ZEC/ETH. Let's have a look at some daily charts.



Fig 3. (BTC/USDT daily chart March-July 2018)



Fig 4. (QTUM/BTC daily chart Nov 2017 – Jul 2018)



Fig 5. (QTUM/ETH daily chart Nov 2017 – Jul 2018)



Fig 6. (QTUM/USDT daily chart March-July 2018)



Fig 7. (ZEC/ETH daily chart Nov 2017 – Jul 2018)



Fig 8. (EOS/ETH daily chart March-July 2018)

The daily charts for all 6 pairs have different periods of the suspiciously stable trade volume until the middle of July 2018. The same volume stability is clearly visible on the smaller time-frames as well (see figs 9-14).



Fig 9. (BTC/USDT hourly chart May-July 2018)



Fig 10. (QTUM/BTC hourly chart May-July 2018)



Fig 11. (QTUM/ETH hourly chart May-July 2018)



Fig 12. (QTUM/USDT hourly chart May-July 2018)



Fig 13. (ZEC/ETH hourly chart May-July 2018)



Fig 14. (EOS/ETH hourly chart May-July 2018)

Such volume performance on daily and hourly charts given above suggest of its artificial nature. Most likely the volume was tailored to create a false appearance of high liquidity. Starting from the middle of July 2018, the picture has changed, and daily volume values have become more variable. Moreover, it jumped significantly for all observed pairs, especially for QTUM/USDT, EOS/ETH, and ZEC/ETH (see figs 15-17).



Fig 15. (QTUM/USDT daily chart)



Fig 16. (EOS/ETH daily chart)



Fig 17. (ZEC/ETH daily chart)

Besides, there are many inconsistencies between price moves and trade volume performance. Under normal market conditions, trade volume rises along with sharp price jump or decline, but LBank's charts often show low volume during the period of high volatility and large volume spikes in less volatile periods.



Fig 18. (BTC/USDT 15-minutes chart)



Fig 19. (BTC/USDT 15-minutes chart)

Moreover, trade volume often seems to lag behind the price move. It also points to the fact that there is a trade volume manipulation.



Fig 20. (QTUM/BTC 5-minutes chart)



Fig 21. (QTUM/ETH 5-minutes chart)



Fig 22. (ZEC/ETH 5-minutes chart)



Fig 23. (QTUM/USDT 5-minutes chart)

Figs 20-23 feature charts of QTUM/BTC, QTUM/ETH and ZEC/ETH, as well as QTUM/USDT, showing the trade volume remaining steady during the 30 minutes long 10% price move and rising in tens and even hundreds of times only after the price reaches its peak and starts stabilizing.



Observation of the orderbooks and trade histories of selected 6 most active pairs showed that trading activity is most likely artificially randomized. Transactions never hit ask or bid but print at random prices within the spread. Their periodicity, and especially amounts, seems to be intentionally randomized as well (see figs 24-29).

Time	Price	Amount	Time	Price	Amount	Time	Price	Amount
16:57:03	6529.29	2.7476	17:28:05	0.02127500	115.6753	16:17:46	0.00066900	98.6287
16:57:03	6529.16	0.07	17:27:56	0.02124300	126.5486	16:17:18	0.00066400	113.1057
16:56:07	6529.08	2.4572	17:27:21	0.02125200	110.8352	16:17:00	0.00066300	316.4288
16:56:05	6529.35	0.1	17:27:02	0.02127200	34.0688	16:16:29	0.00067000	271.5254
16:55:44	6535.23	2.0283	17:26:55	0.02129800	78.0928	16:16:13	0.00066600	2.50K
16:55:25	6531.25	0.9534	17:26:40	0.02128100	51.9306	16:16:00	0.00066700	1.52K
16:55:16	6530.61	1.2203	17:26:53	0.02122100	136.4267	16:15:53	0.00066600	1.92K
16:54:56	6536.28	0.0064	17:25:31	0.02125000	48.2696	16:15:12	0.00066800	859.755
16:54:05	6535.09	0.567	17:25:09	0.02122500	141.1268	16:15:03	0.00067000	3.46K
16:53:40	6535.52	1.3655	17:24:35	0.02120300	115.1279	16:14:37	0.00067100	4.85K
16:52:57	6532.13	0.5352	17:24:12	0.02125900	116.0116	16:14:30	0.00067100	5.17K
16:52:26	6535.74	2.5268	17:24:06	0.02123500	31.2371	16:14:21	0.00066900	1.87K
16:52:23	6534.90	1.1396	17:23:58	0.02124600	140.032	16:14:05	0.00066600	4.13K
16:52:08	6535.39	1.4777	17:23:35	0.02123100	94.2711	16:13:48	0.00067100	719.1102
16:51:50	6533.07	1.2039	17:23:18	0.02124900	145.9343	16:13:32	0.00066700	3.94K
16:51:35	6534.55	1.2805	17:22:02	0.02125900	547.544	16:13:12	0.00066900	3.24K
16:51:07	6531.78	0.8125	17:21:57	0.02125500	332.4811	16:12:56	0.00067200	3.22K
16:50:42	6536.91	1.9404	17:21:51	0.02127000	187.4635	16:12:26	0.00066800	1.47K
16:50:25	6532.27	2.5447	17:21:41	0.02122900	415.3264	16:12:08	0.00067400	2.00K
16:49:54	6533.10	0.3283	17:21:24	0.02124800	435.0142	16:11:58	0.00066900	2.73K
16:49:36	6532.08	1.5806	17:21:20	0.02123200	645.2456	16:11:49	0.00067000	4.69K
16:49:35	6537.56	0.0187	17:21:06	0.02131000	749.8517	16:11:30	0.00067600	2.70K
16:49:20	6536.74	0.5991	17:21:03	0.02128000	389.9953	16:11:22	0.00067400	4.94K
16:49:06	6534.97	1.3157	17:20:47	0.02127400	323.2312	16:11:11	0.00067200	2.70K
16:49:02	6532.97	0.4484	17:20:30	0.02127500	559.5472	16:10:27	0.00067000	136.6127
16:48:15	6533.39	0.6076	17:20:20	0.02132000	629.1747	16:10:03	0.00067200	213.1748
16:48:08	6532.88	1.2341	17:20:02	0.02129400	806.1304	16:09:32	0.00067700	210.7361
16:47:10	6532.44	0.6013	17:19:32	0.02122600	365.5013	16:09:10	0.00067700	207.8061
16:47:08	6532.94	4.1393	17:19:09	0.02125700	433.6563	16:09:02	0.00067100	209.2308
16:46:57	6529.35	1.2249	17:18:41	0.02130600	684.3016	16:08:36	0.00067200	115.1499
16:45:55	6533.65	1.8191	17:18:17	0.02124300	911.8987	16:08:23	0.00067000	166.7306
16:45:50	6529.42	2.5032	17:17:47	0.02126500	214.6453	16:08:11	0.00067500	133.3368
16:45:49	6532.73	1.3204	17:16:54	0.02123600	714.7265	16:07:31	0.00067300	108.9646
16:45:42	6533.65	1.7426	17:16:48	0.02129800	1.23K	16:06:57	0.00067300	103.5826
16:45:28	6533.65	3.0343	17:16:09	0.02131100	559.1614	16:06:45	0.00067600	234.4381
16:45:13	6533.65	0.8848	17:16:02	0.02125500	1.10K	16:05:30	0.00067500	133.5889
16:45:06	6533.63	2.5818	17:15:21	0.02131900	646.2647	16:05:13	0.00067300	381.0965
16:44:57	6529.87	4.018	17:14:48	0.02127700	1.15K	16:04:54	0.00067600	444.157
16:44:51	6532.29	2.0639	17:14:23	0.02128100	405.2604	16:04:47	0.00067700	673.0242
16:44:43	6533.36	2.6604	17:13:57	0.02132400	1.09K	16:04:17	0.00067400	236.1598
16:44:32	6533.26	1.6263	17:13:34	0.02126500	603.1892	16:04:11	0.00068000	268.8176
16:44:30	6534.28	0.0755	17:13:29	0.02127700	373.0983	16:03:52	0.00067700	633.766
16:44:30	6534.28	0.0086	17:13:16	0.02128900	445.1125	16:03:39	0.00068100	539.8185

Fig. 24, 25, 26 (Trade histories for BTC/USDT, QTUM/ETH, QTUM/BTC)

Time	Price	Amount	Time	Price	Amount	Time	Price	Amount
13:14:14	4.2900	342.1355	12:26:07	0.02665658	569.12	17:24:47	0.50598139	62.1593
13:13:53	4.3300	323.8464	12:25:48	0.02668978	276.23	17:24:35	0.50686406	54.0544
13:13:34	4.3100	294.9013	12:25:20	0.02665608	783.43	17:24:30	0.50357317	71.6846
13:13:16	4.3100	316.544	12:24:45	0.02664815	115.83	17:24:08	0.50638771	41.4032
13:12:59	4.3200	276.2627	12:24:40	0.02665835	797.1	17:23:56	0.50614331	30.9913
13:12:36	4.3100	102.8184	12:24:26	0.02665152	974.3	17:23:48	0.50569963	68.0598
13:12:30	4.3100	573.0158	12:23:58	0.02665014	495.72	17:23:24	0.50695410	95.164
13:12:04	4.3100	84.5637	12:22:44	0.02657962	786.04	17:23:14	0.50886294	33.1252
13:11:33	4.3000	248.5291	12:22:07	0.02655016	648.5	17:23:07	0.50434445	44.7718
13:10:54	4.3200	406.4993	12:21:58	0.02656743	1.43K	17:22:51	0.50506749	73.0902
13:10:08	4.3200	647.3516	12:21:49	0.02655946	840	17:22:35	0.50654670	26.401
13:09:54	4.3100	112.0691	12:21:09	0.02654183	1.54K	17:22:17	0.50990909	55.7743
13:09:21	4.3100	175.5327	12:20:02	0.02649134	322.81	17:22:10	0.50957017	23.868
13:08:58	4.2800	61.1272	12:19:44	0.02652135	523.2	17:22:03	0.51263318	16.1924
13:08:55	4.3000	257.5012	12:19:32	0.02655432	1.03K	17:21:55	0.51240191	67.3879
13:08:50	4.3100	204.1292	12:19:23	0.02653899	577.27	17:21:42	0.50709210	126.03
13:08:47	4.3100	347.6885	12:18:52	0.02648946	381.63	17:21:36	0.50956933	46.0949
13:08:40	4.3100	360.6799	12:18:32	0.02653402	138.5	17:20:16	0.51072671	32.7223
13:08:19	4.3100	254.1225	12:18:18	0.02650954	382.99	17:19:58	0.51085846	26.875
13:07:48	4.3000	312.2316	12:17:58	0.02648901	564.19	17:19:46	0.50697897	57.3862
13:07:32	4.3000	120.2879	12:17:50	0.02650753	484.49	17:19:06	0.50940206	69.656
13:07:09	4.3100	197.1389	12:17:26	0.02650131	1.30K	17:18:34	0.51063646	72.7782
13:06:34	4.3100	236.232	12:17:17	0.02654907	440.18	17:18:25	0.51111507	24.3339
13:05:55	4.3100	79.0239	12:16:26	0.02653152	536.66	17:18:04	0.50954190	34.5469
13:05:32	4.3000	255.4708	12:16:23	0.02653227	389.75	17:17:28	0.50689453	51.2149
13:05:10	4.3300	144.0604	12:15:53	0.02652593	319.74	17:17:08	0.50981679	15.9244
13:04:55	4.3000	221.959	12:15:05	0.02650626	120.47	17:16:19	0.51126466	69.7023
13:04:41	4.3000	87.5086	12:14:29	0.02650629	386.35	17:15:58	0.51515288	56.4115
13:04:32	4.3000	445.5751	12:14:19	0.02652138	571.01	17:15:34	0.51607342	13.6935
13:04:32	4.3000	258.5294	12:13:39	0.02650170	343.23	17:15:04	0.51491517	19.8345
13:04:30	4.3000	176.6692	12:13:32	0.02650187	308.57	17:14:51	0.51477473	58.202
13:04:24	4.3100	489.2155	12:13:21	0.02651611	475.64	17:13:38	0.51201632	68.9896
13:04:24	4.2900	158.4386	12:13:14	0.02650760	88.59	17:12:51	0.51116108	74.3563
13:03:52	4.2900	426.8643	12:12:42	0.02651258	209.81	17:11:57	0.50917806	42.2866
13:03:27	4.2900	247.2184	12:05:42	0.02653457	127.25	17:11:48	0.50577710	69.169
13:03:07	4.3100	476.2501	12:05:03	0.02646405	381.9	17:10:43	0.50446795	16.832
13:02:50	4.3000	445.5464	12:04:52	0.02646712	439.23	17:09:58	0.50639911	82.3244
13:02:33	4.3000	386.729	12:04:33	0.02647149	89.15	17:09:38	0.50681391	23.1475
13:02:18	4.3000	200.1853	12:04:29	0.02645792	380.79	17:09:09	0.50403953	61.6822
13:01:40	4.3100	241.1644	12:04:18	0.02650276	910.93	17:08:50	0.59983025	83.5505
13:01:12	4.3000	319.2706	12:03:49	0.02648365	213.08	17:08:17	0.50261306	89.3542
13:01:07	4.3100	372.1932	12:03:02	0.02650493	333.5	17:07:35	0.50070384	116.1281
13:01:03	4.3000	136.4721	12:02:53	0.02651692	351.64	17:07:03	0.50010389	31.9206

Fig. 27, 28, 29 (Trade histories for QTUM/USDT, EOS/ETH, ZEC/ETH)

Sometimes, transaction amounts are large enough to kill all bids or offers in the orderbook if they were executed by market orders (see figs 30-33).

Price	Amount	Total(USD)	Time	Price	Amount
6572.80	0.3000	1996.428000	12:18:17	6572.80	10.7656
6564.76	0.4061	2699.505079	12:18:06	6569.49	8.7053
6547.39	0.5302	3517.500558	12:17:46	6569.35	14.1992
6534.29	0.3992	2648.308768	12:17:32	6569.05	2.5684
6527.34	0.2700	1789.381800	12:17:01	6572.78	3.8818
6521.93	0.3247	2145.991005	12:16:46	6575.51	16.9561
6509.91	0.4204	2774.181764	12:16:33	6573.44	17.5121
6574.81	0.1160	762.677960	12:16:12	6572.99	19.7684
			12:16:06	6572.10	5.8134
			12:16:03	6577.00	16.4044
			12:15:54	6572.63	4.4615
			12:15:52	6575.65	4.4398
			12:15:50	6577.01	15.2825
			12:15:45	6572.73	9.5176
			12:15:42	6576.91	4.5024
			12:13:44	6568.89	3.2536
			12:13:35	6572.38	2.4068
			12:13:30	6572.38	1.6278
			12:13:20	6572.38	1.5292
			12:13:10	6572.22	3.5301
			12:12:53	6571.70	1.0527
			12:12:35	6568.80	0.7483
			12:12:17	6572.40	1.4186
			12:12:03	6571.98	2.1685

Fig. 30 (BTC/USD orderbook)

Price	Amount	Total(ETH)	Time	Price	Amount
0.59089225	0.2000	0.12423161	17:54:15	0.59089225	59.179
0.62115808	0.2000	0.12331738	17:53:59	0.58883136	86.6027
0.61858692	0.1000	0.06160442	17:53:51	0.58875732	85.0012
0.61804423	0.2990	0.17988304	17:53:47	0.59121214	68.8816
0.60161552	0.3075	0.18435934	17:53:21	0.58943174	24.8625
0.5954257	0.3150	0.18877280	17:52:43	0.58923254	53.7921
0.590227074	0.1803	0.10770821	17:52:32	0.59302372	35.1903
0.59738333	0.1254	0.07466240	17:52:19	0.59379294	51.6676
0.59539400	0.1254	0.07466240	17:51:53	0.59180003	18.3579
0.59528221	0.6125	0.36461035	17:51:27	0.59202968	35.8684
			17:50:59	0.58988936	19.1631
			17:50:56	0.58930203	54.8977
			17:50:45	0.59162043	15.3653
			17:50:33	0.59048433	27.7815
			17:50:16	0.59114594	47.829
			17:49:58	0.59024442	53.3412
			17:49:34	0.59010343	50.5917
			17:49:10	0.58945617	35.362
			17:48:44	0.58846784	25.0765
			17:48:32	0.59136072	54.924
			17:48:18	0.58902875	61.644
			17:48:00	0.58824851	43.7567
			17:47:44	0.59075806	62.8424
			17:47:17	0.58948398	6.0865

Fig. 31 (ZEC/ETH orderbook)

Price	Amount	Total(ETH)	Time	Price	Amount
0.01995700	354.3770	7.28966055	18:07:05	0.01995700	2.01K
0.02057038	342.0200	7.02426311	18:07:03	0.01997400	1.38K
0.02053758	319.0000	6.53802303	18:06:52	0.01999700	2.22K
0.02049537	232.6400	4.76513952	18:06:19	0.01995100	1.05K
0.02048289	198.4350	4.06393689	18:05:53	0.01998100	2.42K
0.02047894	85.8090	1.75197436	18:05:48	0.01993800	545.0069
0.02041714	111.2947	2.26952152	18:05:35	0.02001700	408.8401
0.02039200	2.7097	0.05485465	18:05:27	0.02002200	2.97K
0.02024381			18:05:18	0.01998500	1.76K
			18:05:14	0.01993700	1.35K
			18:04:56	0.01998100	810.5594
			18:04:42	0.01996600	1.28K
			18:04:23	0.01999800	1.81K
			18:04:12	0.01999500	777.8014
			18:03:43	0.01999700	316.265
			18:03:25	0.01995500	1.22K
			18:02:54	0.01999500	1.72K
			18:02:45	0.01992700	349.8853
			18:02:43	0.01999300	1.77K
			18:02:24	0.01995300	1.57K
			18:02:28	0.01992600	1.23K
			18:02:18	0.01993700	1.00K
			18:02:14	0.01999000	959.3648
			18:02:06	0.01991100	1.84K
			18:01:49	0.01992700	722.833

Fig. 32 (QTUM/ETH orderbook)

Price	Amount	Total(BTC)	Time	Price	Amount
0.00062908	266.0000	0.16754808	19:34:09	0.00062300	8.36K
0.00062840	199.1000	0.12531354	19:33:50	0.00062600	5.72K
0.00062923	188.8000	0.11879862	19:33:25	0.00062700	3.53K
0.00062735	180.2170	0.11305913	19:33:09	0.00062400	10.08K
0.00062696	171.5000	0.10752364	19:32:37	0.00061900	10.88K
0.00062682	140.1000	0.08781748	19:31:55	0.00062200	9.94K
0.00062639	91.8000	0.05750260	19:30:57	0.00062200	15.72K
0.00062682	140.1000	0.08781748	19:30:35	0.00062600	15.08K
0.00062639	91.8000	0.05750260	19:30:09	0.00062400	3.90K
0.00062634	79.5450	0.04982221	19:29:53	0.00062600	11.22K
0.00062621	53.0000	0.03318913	19:29:35	0.00062700	4.71K
			19:28:36	0.00062400	11.85K
			19:28:14	0.00062700	1.19K
			19:27:54	0.00062600	1.33K
			19:27:52	0.00062400	11.46K
			19:27:45	0.00062400	3.30K
			19:27:32	0.00061900	2.80K
			19:27:20	0.00062500	3.30K
			19:27:03	0.00062100	1.46K
			19:26:40	0.00062700	2.45K
			19:26:13	0.00062200	1.22K
			19:25:28	0.00062400	399.3784
			19:25:04	0.00062300	852.3887
			19:24:41	0.00062400	1.20K
			19:24:19	0.00062400	1.83K

Fig. 33 (QTUM/BTC orderbook)

The Liquidity Review of Lbank showed that there is suspiciously stable trade volume until July 2018, trade volume & price inconsistencies during the sharp price moves in 6 major pairs, as well as manipulated transactions. Considering these facts, the weight of evidence suggests that Lbank tends to make trade volume manipulations.

CYBER SECURITY REVIEW

For cybersecurity assessment, we used the new version of the CER Cyber Security Score (CSS) calculation model, which has not been implemented in CER platform yet. New CSS is comprised of four high-level factors: server security, user security, continuous integration (CI) security, and historical security. In turn, each of the high-level factors consists of a number of factors ranging from 1 to 9.

Let's apply this model to measure the LBank security level.

#	Factor		High-Level Factor		CSS
1	SSL/TLS certificate	9	Server Security	8.22	7.51
2	WAF/CDN	3			
3	SPF	10			
4	DNSSEC	10			
5	Soft version check (open ports scan)	10			
6	Git/svn/phpMyAdmin check	10			
7	Hidden dirs/dirs access	10			
8	HTTP Headers (+ Cookies HTTP only, secure)	4			
9	Spam DB	10			
10	2-factor authentication	10	User Security	8.75	
11	Captcha	10			
12	Password Requirements	5			
13	BugBounty Program	0	CI Security	0	
14	Data Breaches	10	Historical Security	10	
15	Previous Hack Cases	10			

Table 1. (LBank Cyber Security Score with factors)

So, we calculated CSS for LBank, and it totaled 7.51 points out of 10. The exchange didn't manage to get the best result due to the absence of bug bounty programs, medium password requirements, along with weak Web Application Firewall (WAF) and HTTP headers report, which are extremely important for the fundamental security of financial institution responsible for people's funds and data.

DESCRIPTION OF THE CSS RESULTS

Bug Bounty program – or vulnerability rewards program (VRP), is a crowdsourcing initiative that rewards individuals (ethical hackers) for discovering and reporting software bugs. Bug bounty programs are often initiated to supplement internal code audits and penetration tests as part of an organization's vulnerability management strategy. Currently, LBank doesn't conduct any bug bounty programs neither self-hosted nor via specialized third-party resources like HackenProof.

Strong user password is one of basic account security measures. Strong passwords should contain capital letters and special characters. LBank has medium password requirements: length of 8-20 characters, consisting of letters and numbers.

Web Application Firewall (WAF) – exchange protection from all kinds of attacks: sql, rce etc. WAF – an application-level security cover designed to detect and block modern attacks on Web applications, including utilizing zero-day vulnerabilities. Such a defense mechanism allows a company to block attacks of the OWASP TOP 10 category, their totality, and combinations.

It's THE MOST IMPORTANT component of cybersecurity. Even if a site has vulnerabilities, WAF contributes to protecting them from the exploitation by hackers. It includes combined methods of detecting attacks based on signatures and machine learning. WAF identifies illegal actions of the user distinguishing them from legitimate visitors to the site.

WAF availability check showed that LBank is using freeware OWASP ModSecurity Core Rule Set which can be bypassed with little effort.

HTTP security headers are a fundamental part of website security. Upon implementation, they protect a user against the types of attacks that a site is most likely to come across. We checked LBank for the following headers:

- Strict-Transport-Security – is a feature to support a site and strengthen the implementation of TLS by getting the User Agent to enforce the use of HTTPS.
- Content-Security-Policy – is an effective measure to protect a site from XSS attacks. By whitelisting sources of approved content, you can prevent the browser from loading malicious assets.
- X-Frame-Options – enables clickjacking prevention by disabling iframes on your site.
- X-XSS-Protection – feature designed to defend against Cross Site Scripting.
- X-Content-Type-Options – stops a browser from trying to MIME-sniff the content type and forces it to stick with the declared content-type.
- Referrer-Policy – is a new header that allows a site to control how much information the browser includes with navigations away from a document and should be set by all sites.
- Feature-Policy – is a new header that allows a site to control which features and APIs can be used in the browser.

LBank's site has a warning regarding weak parameters of Strict-Transport-Security and misses other 5 (out of 7) headers: Content-Security-Policy, X-XSS-Protection, X-Content-Type-Options, Referrer-Policy, and Feature-Policy.

MARKETING REVIEW

WEBSITE TRAFFIC

For our marketing analysis, we've compared LBank (a questionable exchange) with Kraken, KuCoin, and Gemini. These exchanges we consider well-established and quite reliable.

Here is a quick snapshot of exchanges in question from CoinMarketCap (CMC) as of November 1, 2018. The figures highlighted in a red box are "30 Day Adjusted Trading Volume".

26		Kraken	\$65,691,905	\$65,691,905	\$287,703,880	\$2,020,437,530	71	-10.22%		Jul 2011
44		Kucoin	\$26,570,576	\$26,570,576	\$101,757,683	\$575,505,942	403	-5.04%		Aug 2017
47		Gemini	\$23,437,583	\$23,437,583	\$82,635,145	\$613,231,685	9	9.63%		Oct 2014
10		LBank	\$197,866,473	\$197,866,473	\$842,557,392	\$5,910,553,120	92	-11.81%		Oct 2017

Fig 34. (30 Day Adjusted Trading Volume LBank, KuCoin, Kraken, Gemini on CMC)

As you can see, LBank is a dominant leader among the group. Let's see what our marketing analysis will show.

At first, we've looked over the website traffic by using SimilarWeb Pro to get the LBank's user traffic data over the last six months, and then, we compared the results with the three exchanges mentioned above. Here are the results:

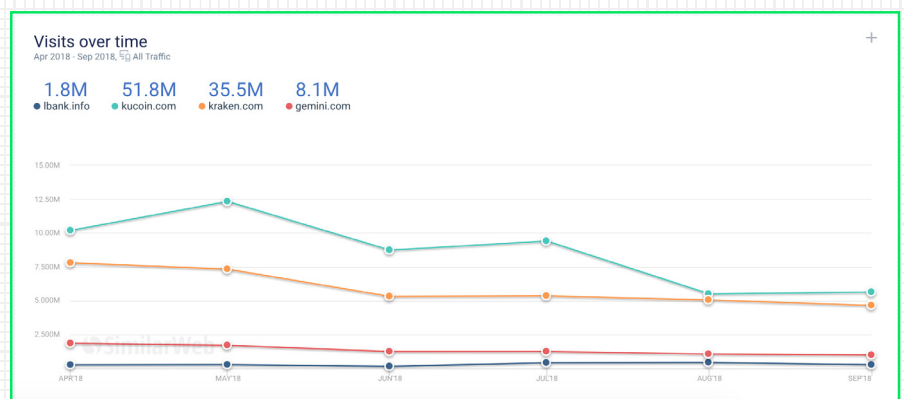


Fig 35. (Overall monthly site visits for LBank, KuCoin, Kraken)

As we can see, LBank's traffic is far away from Kucoin or Kraken and is about 5 times lower than Gemini's one. We see the similar picture over the Average unique visitors per period:

- KuCoin - 1,749,000
- Kraken - 1,082,000
- Gemini - 309,497
- LBank - 90,409

UU (Unique Users)

The formula for counting Unique Users $UU = \text{unique visitors} * (1 - \text{bounce rate})$

- KuCoin - $1,749,000 * (0.51) = 891,990$
- Kraken - $1,082,000 * (0.65) = 703,300$
- Gemini - $309,497 * (0.57) = 176,413$
- LBank - $90,409 * (0.56) = 50,629$

As can be seen, LBank's performance is significantly lower than its peers'. How can it be true considering the fact that Lbank's trade volume several times higher than ones of KuCoin, Kraken, and Gemini?

TWITTER FOLLOWERS

Twitter is considered to be a primary communication channel among the crypto exchanges. So, we've looked over the follower's numbers to see what's what:

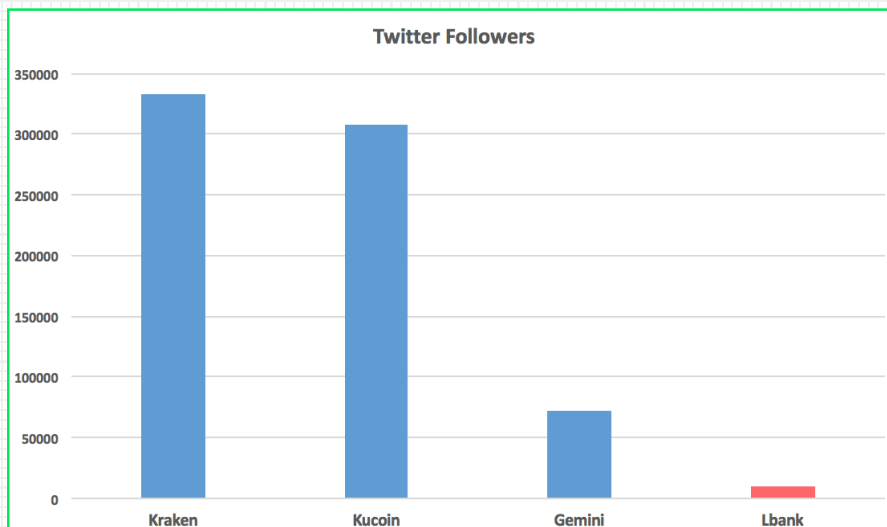


Fig 36 (Numbers of followers on Twitter)

TRADING VOLUME

Next, we took the 30 day reported volume data from CMC for comparison of the exchanges.

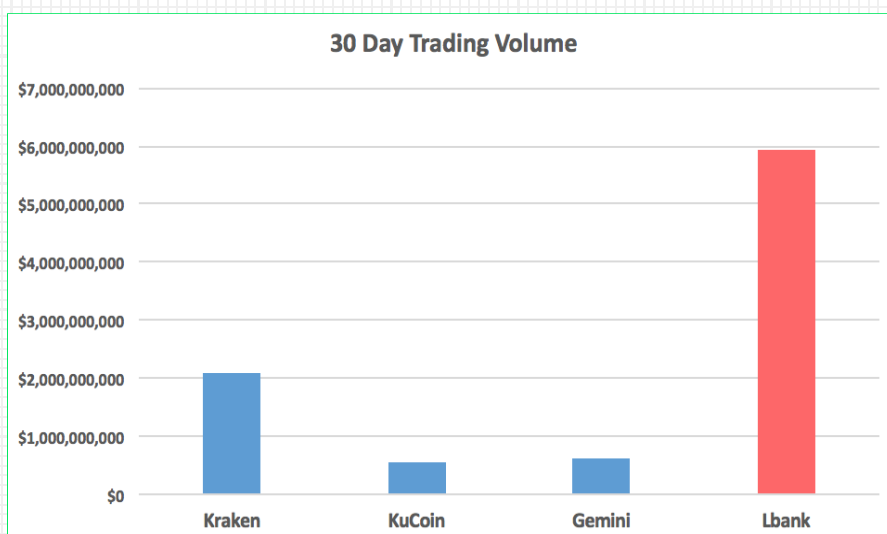


Fig 37. (30 Day Reported Volume LBank, KuCoin, Kraken, Gemini on CMC)

Interestingly, despite miserable website traffic and Twitter community – LBanks has the 10 times higher trading volume compared to Gemini!

Comparing LBank to KuCoin or Kraken simply doesn't make any sense. Kraken and KuCoin website traffic and community engagement levels greatly surpass that of LBank. Despite that, Lbank is demonstrating multiple times higher trading volume. This is incredibly suspicious!

TRADE VOLUME PER UNIQUE VISITOR

To reinforce what we've made in the Trading Volume section, we've calculated the Trade Volume per Unique Visitor factor:

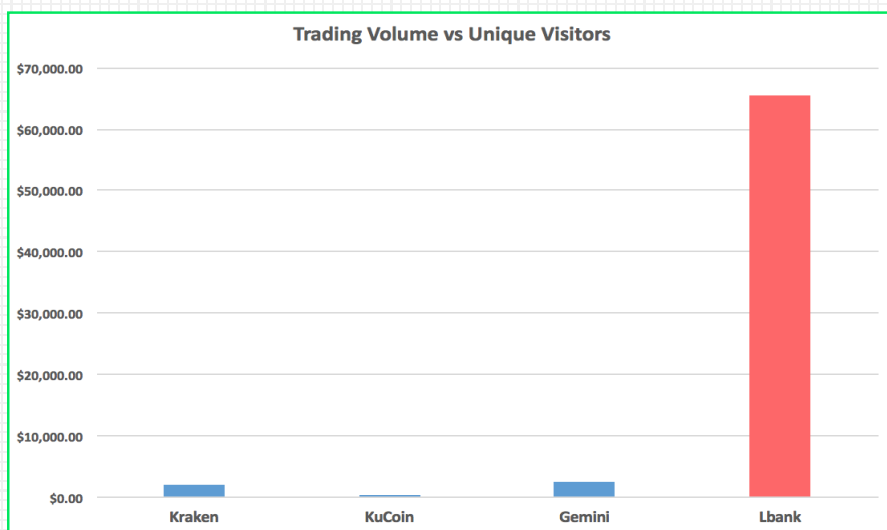


Fig 38. (Trade Volume per Unique Visitor)

Meaning that Kraken, Kucoin, and Gemini trade about \$300-\$2000 per unique user, whereas LBank trades more than \$65 000 per unique visitor. It's even 5 times higher than trade volume per user on Bitforex (\$12 824). This is obviously a suspicious KPI.

REFERRAL TRAFFIC

This is yet another interesting KPI that we see from Exchanges that we suspect in artificial boost of their trading volume.

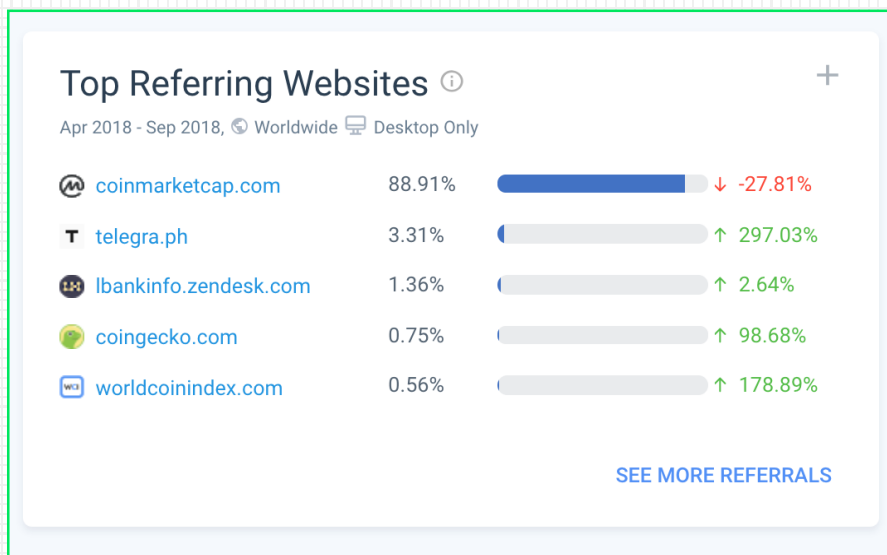


Fig 39. (LBank Traffic overview in Apr-Sep 2018)

As we can see, CoinMarketCap is by far the largest source of LBank's referral traffic, meaning that questionable exchanges (LBank in our case) artificially boost their trading volume to get to the "top" of CMC rank. Exchanges do that because Coin Market Cap has lots and lots of traffic, and users tend to choose exchanges at the top of the rating. This is

MARKETING REVIEW CONCLUSIONS

The conclusion is pretty much the same as in all our researchers that we do regarding questionable exchanges - low traffic volume, low community engagement levels and out of the chart trading volumes that vastly surpass well-established crypto exchanges. Is it an appropriate approach for the growing fintech industry? Definitely - NO.

REPORT INFERENCES

Pros:

1. It's pleasure to see that Lbank implemented KYC and AML policies to prevent money laundering.
2. Relatively good Cyber Security Score - 7.5 points - which is above the average. Cyber Security analysis using our new model revealed the absence of bug bounties, medium password requirements, along with weak WAF and HTTP headers.

Cons:

1. An arcane team. It's difficult to trust an institution that hides identities of its representatives' and founders', the persons who are responsible for the customers' funds and sensitive data.
2. Liquidity analysis of the exchange revealed unnaturally stable trade volume until July 2018, trade volume & price inconsistencies during the sharp price swings in 6 major pairs, along with presumably manipulated transactions.
3. The CER team's marketing analysis detected that Lbank has much higher claimed trade volume and volume per unique visitor despite much lower user traffic and Twitter followers metrics than Kraken, KuCoin and Gemini. It even overcame Bitforex in terms of trade volume and volume per unique visitor. This suggests of the high possibility of artificial volume pumping on the exchange.

Based on the results of liquidity, cyber security and marketing analyses we can conclude that LBank is unreliable exchange for crypto trading, due to most likely falsified liquidity and exploitable cyber security issues.